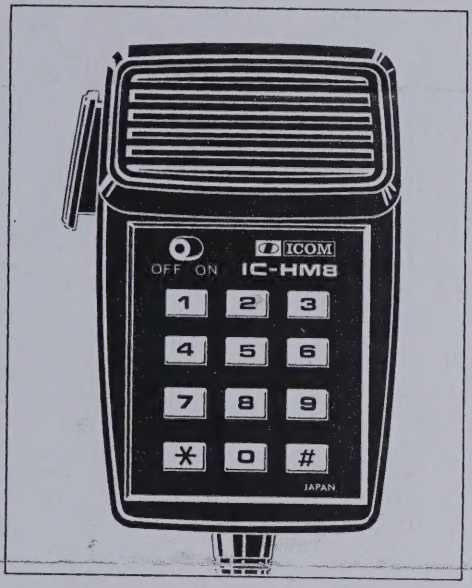
ICOM

TONE ENCODER MICROPHONE IC-HM8

INSTRUCTION MANUAL



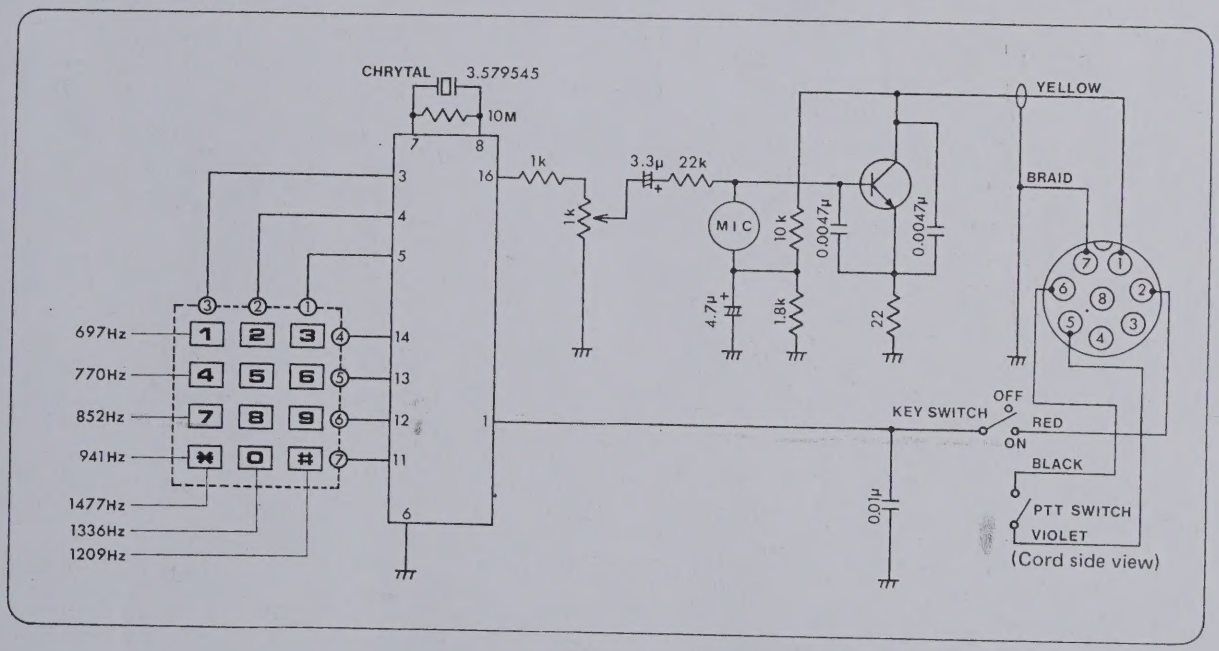
I. INTRODUCTION

Congratulations on the purchase of the IC-HM8 Tone Encoder Microphone. The IC-HM8 is equipped as a microphone unit and tone encoder unit in a single convenient package, with a coiled cord and microphone connector. The tone encorder unit is built with an high accuracy IC for the tone generator, requires no frequency adjustment.

Power for the tone generator IC is obtained from the tranceiver through the microphone cord, it requires no battery. The IC-HM8 can be connected directly to ICOM's Tranceiver installed eight-pin microphone jack (IC-260, IC-255J, IC-251). If you wish to connect this unit to another Transceiver, refer to the drawing attached.

II. METHOD OF USE:

(1) Connect the IC-HM8 to the microphone jack of your tranceiver firmly.
(2) Slide the power switch on the keyboard to the "ON" position.
(3) Depress the PTT (Push to Talk) switch and transmit on the frequency on which you wish to operate. Then, touch the keyboard to insert your cord number.



ICOM INCORPORATED

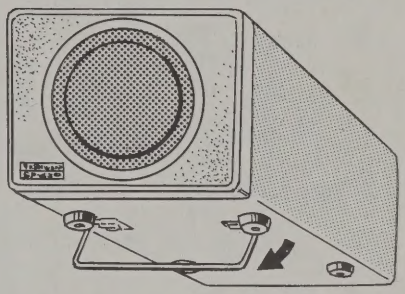
Ken

SP-430

The SP-430 is a midrange speaker designed for use with any receiver or transceiver. The SP-430 can be used in place of the transceiver's built-in speaker for greater clarity and improved tone. The speaker cabinet matches the transceiver front panel to provide a clean looking, integrated station.

SPECIFICATIONS

SPEAKER SIZE	3" (75 mm)
RATED INPUT	1.0 watt
IMPEDANCE	8 ohm
FREQUENCY RESPONSE	300 Hz to 5 kHz
DIMENSIONS	4-13/18" (123 mm) wide x 3-3/4" (96 mm) high x 9-1/4" (235 mm) deep (excluding feet)
WEIGHT	2.8 lbs. (1.3 kg)
ACCESSORIES INCLUDED:	
OPERATING MANUAL	B50-4026-40 1 copy
SPEAKER CABLE ASSY.	E30-1629-1.5 1 pc.



OPERATION

The SP-430 is supplied with a 3 foot speaker cord. The bail on the front bottom of the cabient can be used to raise the front panel.

Simply connect the speaker cord to the SPEAKER jack on the transceiver for operation. The transceiver's internal speaker will be disconnected.

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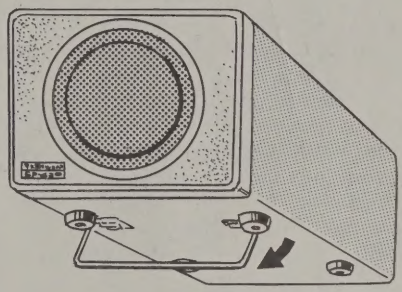
WEIGHT	2.8 lbs. (1.3 kg)
ACCESSORIES INCLUDED:	
OPERATING MANUAL	B50-4026-10 1 pc.
SPEAKER CABLE ASSY.	E30-1629-1.5 1 pc.



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AUTOPATCH MICROPHONE

MC-48B/48

INSTRUCTION MANUAL

KENWOOD

KENWOOD CORPORATION

INTRODUCTION

The MODEL MC-48B/48, is an AUTOPATCH MICROPHONE specifically designed to be used with KENWOOD TRANSCEIVER. It features a 16 key AUTOPATCH encoder and frequency UP and DOWN switches.

FEATURES

1. Microphone is equipped with a tone-pad encoder.
2. A built-in delay holds the microphone (and transceiver) in transmit mode for about 0.7 second between key presses.
3. Micro switch is used for PTT.
4. Specifically designed for transceiver operation to provide good sensitivity and frequency response and clear tones.

SPECIFICATIONS

Type:	Electret condensor
Impedance:	900Ω
Sensitivity:	–70 dB (0 dB = 1V/1μ bar)
Power requirement:	8.5V DC ± 10%
Current drain:	Less than 20mA (at 8.5V DC)
Key:	16 keys
Tone output	3.8mV/5.6kΩ (Adjustable) (With the keys 3 and 6 simultaneously depressed)
Dimensions:	W 51 × H 73 × D 33 mm
Weight:	145 gr. (Approx.)

OPERATION

16 Key AUTOPATCH encoder

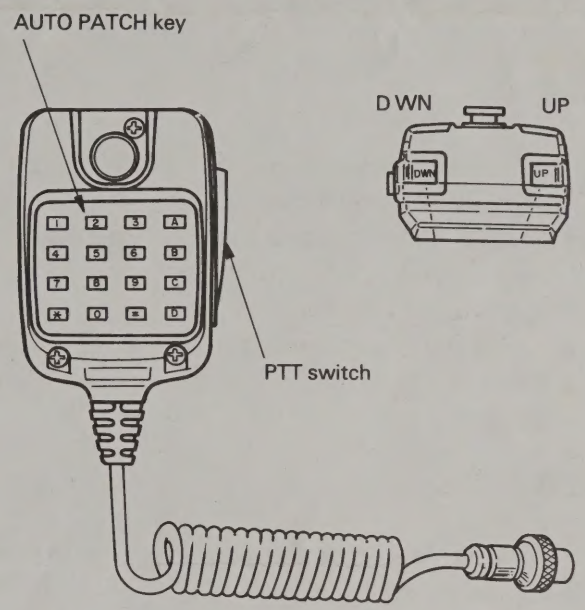
When the tone encoder is started operating, the transceiver is set in transmit mode even with the PTT switch released.

Frequency UP/DOWN switches

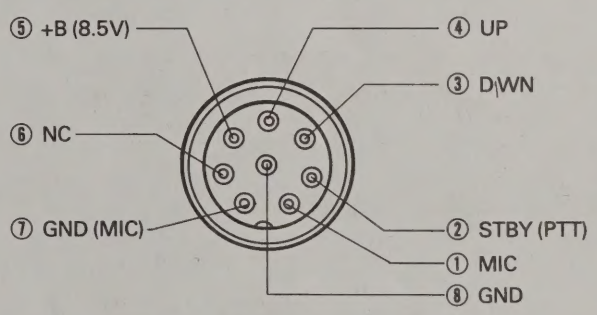
These switches are used to step the operating frequency up or down.

PTT switch

Simply press the PTT switch to activate the transmitter.



REAR VIEW



FRONT VIEW

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DTMF 付マイクロホン

MC-48B

取扱説明書

KENWOOD

株式会社 ケンウッド
KENWOOD CORPORATION

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お買い上げいただきまして誠にありがとうございます。
MC-48B 型マイクロホンは通信機用として開発された DTMF 及びアップダウンスイッチ付のマイクロホンです。

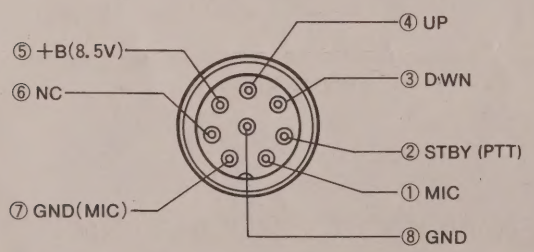
特　長

1．DTMF（Dual tone multi frequency）キーを装備しています。
2．DTMF キー操作時にマイクロホン（およびトランシーバー）を約0.7秒間送信状態に保持するディレイ機能を内蔵しています。
3．アップダウン付マイクロホン
通常のマイクロホンとしての使用のほか、アップダウンスイッチが付いていますのでセットの周波数を手元で変化させる事が出来ます。

ご注意

1．アップダウンスイッチの使用はトランシーバー等の使用方法をよく読んでご使用ください。
2．マイクロホン内部は精密に出来ておりますので開けたり改造などはしない様にしてください。また内部を開けたりした場合は、性能の保証はいたしかねます。
3．マイクロホンは、非常に敏感に出来ておりますので、たたいたり落したりして衝撃を与えないようにご注意ください。
4．公称インピーダンスは900Ωですが、マイクロホンのインピーダンス500～600Ωのトランシーバーにも使用可能です。

参考　マイクロホン端子接続図

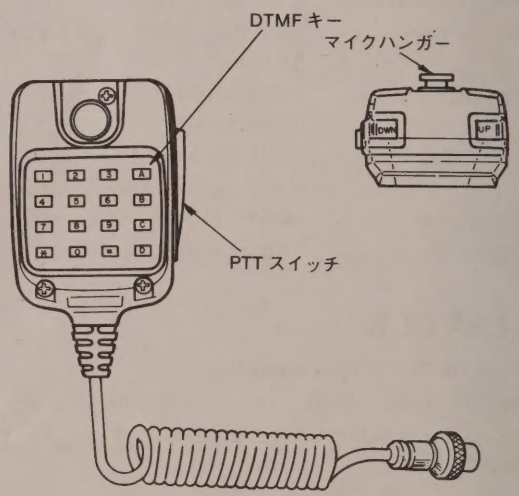


定格・仕様

形　　式	エレクトレットコンデンサ型マイクロホン
公称インピーダンス	900Ω
感　　度	−70dB　（0dB＝1v／1μbar）
電源電圧	8.5V　DC±10%
消費電力	20mA 以下
キー	16キー
DTMF 出力	3.8mV／5.6KΩ
寸　　法	W51×H73×D33　mm
重　　量	約145g

使用方法

1．本体のマイクロホン端子に MC-48B を接続してください。
2．PTT スイッチを押し送信状態にして DTMF キーを押すと PTT スイッチが OFF の状態になっても約0.7秒間送信状態を保持します。



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DYNAMIC MICROPHONE WITH UP-DOWN SWITCH

MC-43S

INSTRUCTION MANUAL

KENWOOD

Your new MC-43S is a handy dynamic microphone with UP/DOWN frequency shift switches, specifically designed for use with KENWOOD transceivers.

FEATURES

1. **Microphone with UP/DOWN micro switches**
   Transmit frequency can be selected by the UP/DOWN switches on the microphone.
2. **Optimum tone quality for communication use**
   The microphone element frequency response has been carefully selected to provide high intelligibility and clear tone, which are indispensable for transceive operation.
3. **Easy operation and high reliability**
   Designed on the basis of human engineering to ensure easy, fatigue-free operation.
   The UP/DOWN switches can be operated while holding the microphone.
   The PTT micro switch also assures easy and reliable operation.

NOTE:

1. For UP/DOWN operation switch, refer to the instruction manual for your transceiver.

CAUTION:

1. This microphone has a precision mechanism. Do not attempt to disassemble or modify the microphone, as it may result in deterioration of performance.
2. The microphone is very sensitive to mechanical shock. Handle it gently, and do not tap or drop it.

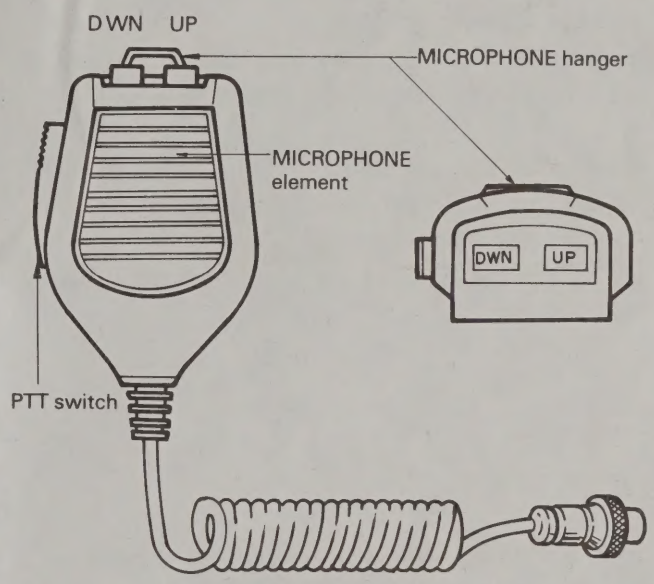
SPECIFICATIONS

Type:	Dynamic microphone
Input impedance:	600 ohms ±30%
Sensitivity:	–71 dB ±3 dB (at 1000 Hz, 2 cm from MIC head)
Directivity:	Omni-directional
Dimensions:	W 53 × H 82 × D 33.5 mm W 53 × H 113 × D 37 mm (projections included)
Weight:	190 gr. (with cord)

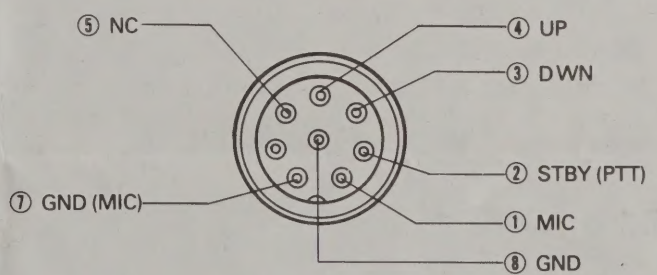
CONNECTION

Microphone input impedance is 600 ohms. Connect the microphone to a low impedance transceiver. The microphone cord with 8P plug can be connected directly to KENWOOD transceivers. When using the microphone with other types of transceivers, be sure to check that the wiring system and connector agree.

Nomenclature



REAR VIEW



FRONT VIEW

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アップダウンスイッチ付ダイナミックマイクロホン

MC-43S

取扱説明書

KENWOOD

株式会社 ケンウッド

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お買上げいただきまして誠にありがとうございます。
MC-43S 型マイクロホンは通信用として開発されたハンド型アップダウンスイッチ付ダイナミックマイクロホンです。

特　長

1．アップダウン付マイクロホン
　通常のマイクロホンとしての使用のほか、アップダウンスイッチが付いていますのでセットの周波数を手元で変化させる事が出来ます。
2．通信機用として最適な音質設計
　周波数性能について充分な実験をし、通信用として最も重要な了解度の向上に重点をおいた音質設計を行っています。
3．操作性に優れた形状と信頼性
　人間工学に基づき、操作性の優れた形状を採用し、長時間の運用にも疲労を感じさせません。
　アップダウンスイッチはマイクを手にもって動作させる事が出来る様考慮されています。

ご注意

1．アップダウンスイッチの使用はトランシーバー等の使用方法をよく読んでご使用ください。
2．マイクロホン内部は精密に出来ておりますので開けたり改造などはしない様にしてください。また内部を開けたりした場合は、性能の保証はいたしかねます。
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使用方法

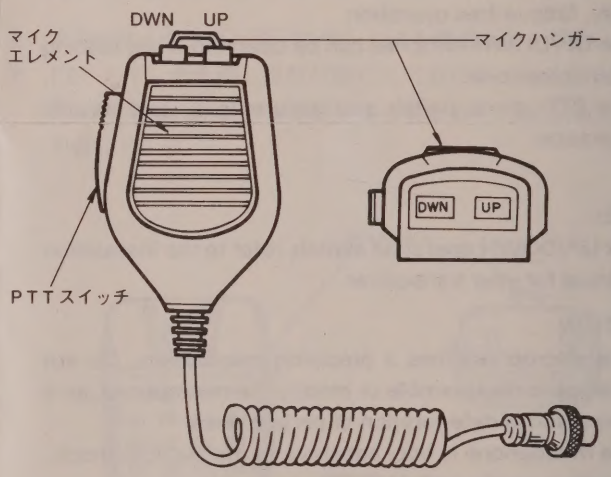
マイクの入力インピーダンスは 600Ω となっています。ローインピーダンスの通信機にご使用ください。
本体のマイクロホン端子に MC-43S を接続してください。

定格・仕様

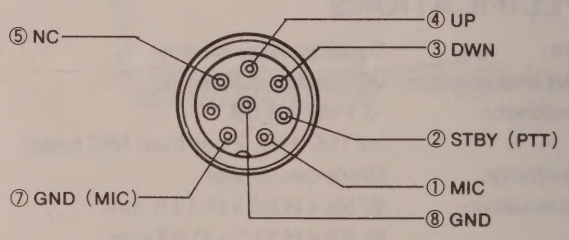
形　　式	ダイナミック型マイクロホン
公称インピーダンス	600Ω ±30%
感　　度	−71dB± 3 dB （正面 2 cm1000Hz）
指　向　性	無指向性
寸　法（外形）	W53×H82×D33.5 mm
（突起物含む）	W53×H113×D37 mm
重量（コード含む）	190g

微鉄粉防除シート装備

各部の名称



参考　マイクロホン端子接続図



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電話(03)3486-5511

DYNAMIC MICROPHONE WITH UP-DOWN SWITCH

MC-43S

INSTRUCTION MANUAL

KENWOOD

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FEATURES

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   Transmit frequency can be selected by the UP/DOWN switches on the microphone.
2. **Optimum tone quality for communication use**
   The microphone element frequency response has been carefully selected to provide high intelligibility and clear tone, which are indispensable for transceive operation.
3. **Easy operation and high reliability**
   Designed on the basis of human engineering to ensure easy, fatigue-free operation.
   The UP/DOWN switches can be operated while holding the microphone.
   The PTT micro switch also assures easy and reliable operation.

NOTE:

1. For UP/DOWN operation switch, refer to the instruction manual for your transceiver.

CAUTION:

1. This microphone has a precision mechanism. Do not attempt to disassemble or modify the microphone, as it may result in deterioration of performance.
2. The microphone is very sensitive to mechanical shock. Handle it gently, and do not tap or drop it.

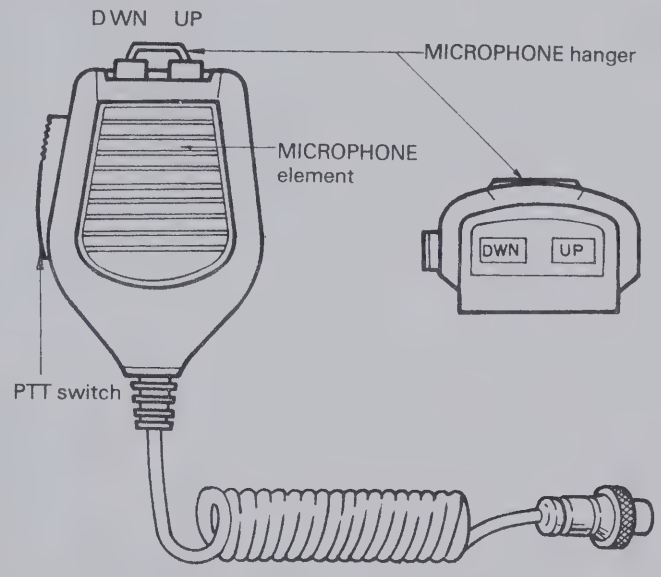
SPECIFICATIONS

Type:	Dynamic microphone
Input impedance:	600 ohms ±30%
Sensitivity:	–71 dB ±3 dB (at 1000 Hz, 2 cm from MIC head)
Directivity:	Omni-directional
Dimensions:	W 53 × H 82 × D 33.5 mm W 53 × H 113 × D 37 mm (projections included)
Weight:	190 gr. (with cord)

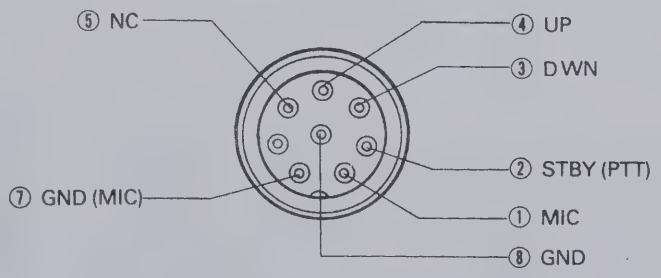
CONNECTION

Microphone input impedance is 600 ohms. Connect the microphone to a low impedance transceiver. The microphone cord with 8P plug can be connected directly to KENWOOD transceivers. When using the microphone with other types of transceivers, be sure to check that the wiring system and connector agree.

Nomenclature



REAR VIEW



FRONT VIEW

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DYNAMIC MICROPHONE WITH UP-DOWN SWITCH

MC-43S

INSTRUCTION MANUAL

KENWOOD

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   The PTT micro switch also assures easy and reliable operation.

NOTE:

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CAUTION:

1. This microphone has a precision mechanism. Do not attempt to disassemble or modify the microphone, as it may result in deterioration of performance.
2. The microphone is very sensitive to mechanical shock. Handle it gently, and do not tap or drop it.

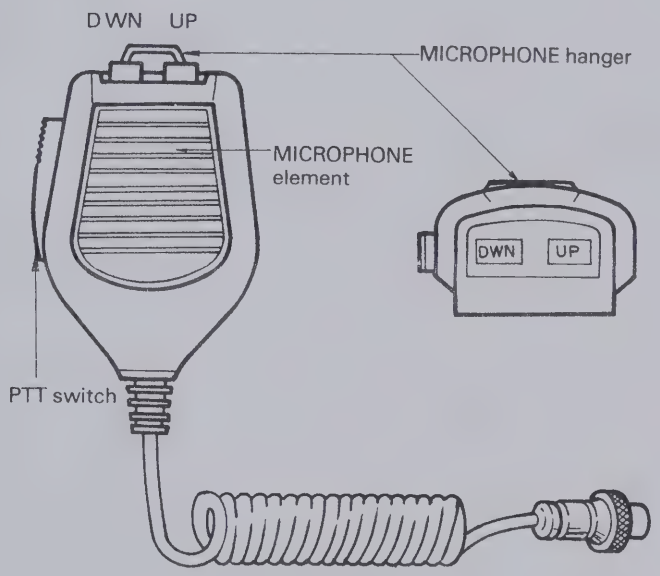
SPECIFICATIONS

Type:	Dynamic microphone
Input impedance:	600 ohms ±30%
Sensitivity:	–71 dB ±3 dB (at 1000 Hz, 2 cm from MIC head)
Directivity:	Omni-directional
Dimensions:	W 53 × H 82 × D 33.5 mm W 53 × H 113 × D 37 mm (projections included)
Weight:	190 gr. (with cord)

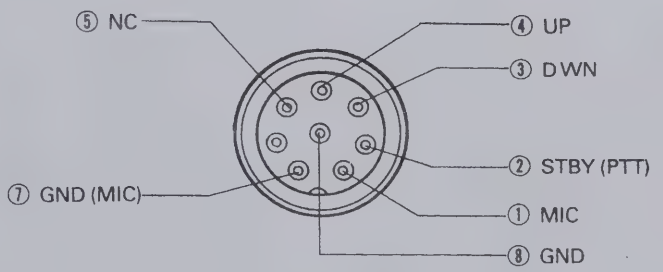
CONNECTION

Microphone input impedance is 600 ohms. Connect the microphone to a low impedance transceiver. The microphone cord with 8P plug can be connected directly to KENWOOD transceivers. When using the microphone with other types of transceivers, be sure to check that the wiring system and connector agree.

Nomenclature



REAR VIEW



FRONT VIEW

KENWOOD CORPORATION
Shionogi Shibuya Building, 17-5, 2-chome Shibuya, Shibuya-ku, Tokyo 150, Japan
KENWOOD U.S.A. CORPORATION
P.O. BOX 22745, 2201 East Dominguez St., Long Beach, CA 90801-5745, U.S.A.
KENWOOD ELECTRONICS DEUTSCHLAND GMBH
Rembrucker Str. 15, 6056 Heusenstamm, West Germany
KENWOOD ELECTRONICS BENELUX N.V.
Mechelsesteenweg 418, B-1930 Zaventem, Belgium
KENWOOD ELECTRONICS AUSTRALIA PTY. LTD.
(INCORPORATED IN N.S.W.)

DYNAMIC MICROPHONE WITH UP-DOWN SWITCH

MC-43S

INSTRUCTION MANUAL

KENWOOD

Your new MC-43S is a handy dynamic microphone with UP/DOWN frequency shift switches, specifically designed for use with KENWOOD transceivers.

FEATURES

1. **Microphone with UP/DOWN micro switches**
   Transmit frequency can be selected by the UP/DOWN switches on the microphone.
2. **Optimum tone quality for communication use**
   The microphone element frequency response has been carefully selected to provide high intelligibility and clear tone, which are indispensable for transceive operation.
3. **Easy operation and high reliability**
   Designed on the basis of human engineering to ensure easy, fatigue-free operation.
   The UP/DOWN switches can be operated while holding the microphone.
   The PTT micro switch also assures easy and reliable operation.

NOTE:

1. For UP/DOWN operation switch, refer to the instruction manual for your transceiver.

CAUTION:

1. This microphone has a precision mechanism. Do not attempt to disassemble or modify the microphone, as it may result in deterioration of performance.
2. The microphone is very sensitive to mechanical shock. Handle it gently, and do not tap or drop it.

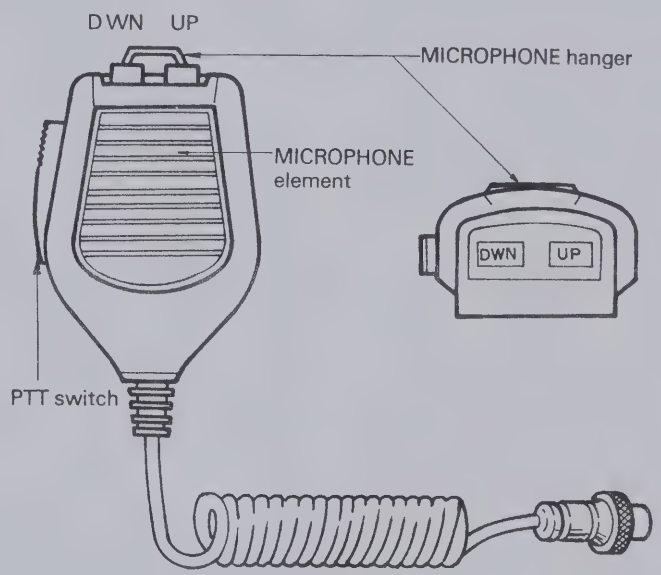
SPECIFICATIONS

Type:	Dynamic microphone
Input impedance:	600 ohms ±30%
Sensitivity:	–71 dB ±3 dB (at 1000 Hz, 2 cm from MIC head)
Directivity:	Omni-directional
Dimensions:	W 53 × H 82 × D 33.5 mm W 53 × H 113 × D 37 mm (projections included)
Weight:	190 gr. (with cord)

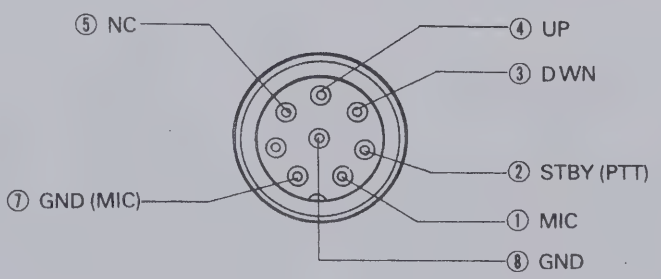
CONNECTION

Microphone input impedance is 600 ohms. Connect the microphone to a low impedance transceiver. The microphone cord with 8P plug can be connected directly to KENWOOD transceivers. When using the microphone with other types of transceivers, be sure to check that the wiring system and connector agree.

Nomenclature



REAR VIEW



FRONT VIEW

KENWOOD CORPORATION
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(INCORPORATED IN N.S.W.)

アップダウンスイッチ付ダイナミックマイクロホン

MC-43S

取扱説明書

KENWOOD

株式会社 ケンウッド

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87／6 5 4 3 2 1　86／12 11 10 9 8 7 6

お買上げいただきまして誠にありがとうございます。
MC-43S 型マイクロホンは通信用として開発されたハンド型アップダウンスイッチ付ダイナミックマイクロホンです。

特　長

1．アップダウン付マイクロホン
　通常のマイクロホンとしての使用のほか、アップダウンスイッチが付いていますのでセットの周波数を手元で変化させる事が出来ます。
2．通信機用として最適な音質設計
　周波数性能について充分な実験をし、通信用として最も重要な了解度の向上に重点をおいた音質設計を行っています。
3．操作性に優れた形状と信頼性
　人間工学に基づき、操作性の優れた形状を採用し、長時間の運用にも疲労を感じさせません。
　アップダウンスイッチはマイクを手にもって動作させる事が出来る様考慮されています。

ご注意

1．アップダウンスイッチの使用はトランシーバー等の使用方法をよく読んでご使用ください。
2．マイクロホン内部は精密に出来ておりますので開けたり改造などはしない様にしてください。また内部を開けたりした場合は、性能の保証はいたしかねます。
3．マイクロホンは、非常に敏感に出来ておりますので、たたいたり落したりして衝撃を与えないようにご注意ください。

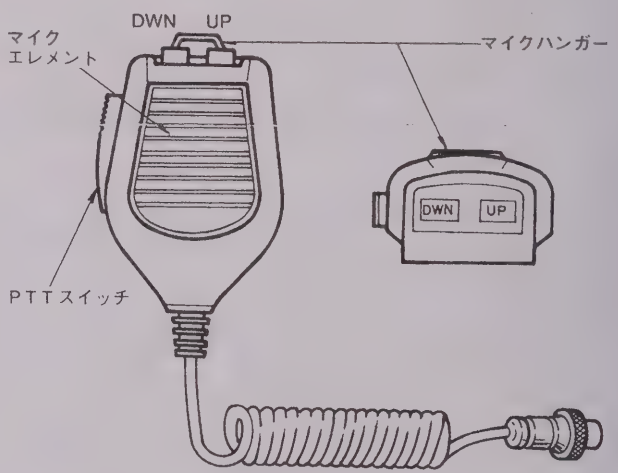
使用方法

マイクの入力インピーダンスは 600Ω となっています。ローインピーダンスの通信機にご使用ください。
本体のマイクロホン端子に MC-43S を接続してください。

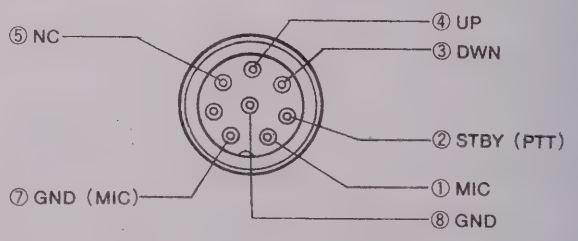
定格・仕様

形　　式	ダイナミック型マイクロホン
公称インピーダンス	600Ω ±30%
感　　度	−71dB± 3 dB （正面 2 cm1000Hz）
指　向　性	無指向性
寸　法（外形）	W53×H82×D33.5 mm
（突起物含む）	W53×H113×D37 mm
重量（コード含む）	190g
微鉄粉防除シート装備	

各部の名称



参考　マイクロホン端子接続図



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購入店または最寄りの当社サービスセンター
営業所をご利用ください。
商品に関するその他のお問合せは、
お客様相談室をご利用ください。

KENWOOD

株式会社 ケンウッド

KENWOOD

AUTOPATCH MICROPHONE

MC-46

INSTRUCTION MANUAL

INTRODUCTION

The MODEL MC-46 is an AUTOPATCH MICROPHONE specifically designed to be used with KENWOOD TRANSCEIVER models TR-7800*, TR-7850*, TR-8400* TR-9000* and TR-7730. It features a 16 key AUTOPATCH encoder and frequency UP and DOWN switches.

FEATURES:

1. Microphone is equipped with a tone-pad encoder.
2. Pressing any key automatically places the associated transceiver in transmit mode. A built-in delay holds the microphone (and transceiver) in transmit mode ***for about 0.8 second between key presses.***
3. Micro switch is used for PTT.
4. Specifically designed for transceiver operation to provide good sensitivity and frequency response and clear tones.

APPLICABLE MODEL

TR-9000*, TR-7730, TR-7800*, TR-7850*
TR-8400*

NOTE *: Requires wiring change to the microphone jack.

SPECIFICATIONS

[GENERAL]

Power requirement:	8.5 V DC ± 10%
Current drain:	Less than 20mA (at 8.5 V DC)
Connector:	**6 pins**
Dimensions:	W 50 x H 73 x D 35 mm
Weight:	145 gr. (Approx.)

[MICROPHONE]

Element:	Electret condensor
Frequency response:	300 Hz ~ 5 kHz (–6 dB)
Sensitivity:	–66 dB (0 dB = 1 V /1 μ bar)
Matching impedance:	500Ω ~ 2 kΩ

[AUTOPATCH]

Key:	16 keys
Tone output:	2 mV (Adjustable)

CONNECTION WIRING

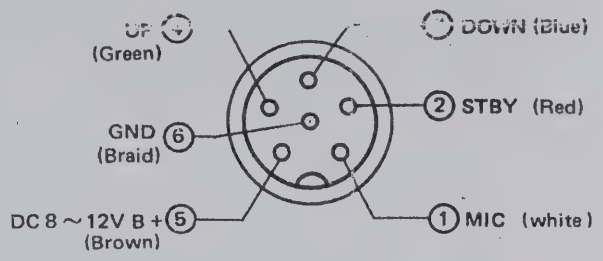


Fig. 1 MIC terminal (Seen from plug side)

OPERATION:

16 Key AUTOPATCH encoder

Press any key and the associated transceiver will be placed in transmit mode (automatic PTT) without pressing the PTT switch.
The transceiver will remain in transmit mode for about 0.8 second between key presses.

Frequency UP/DOWN switches

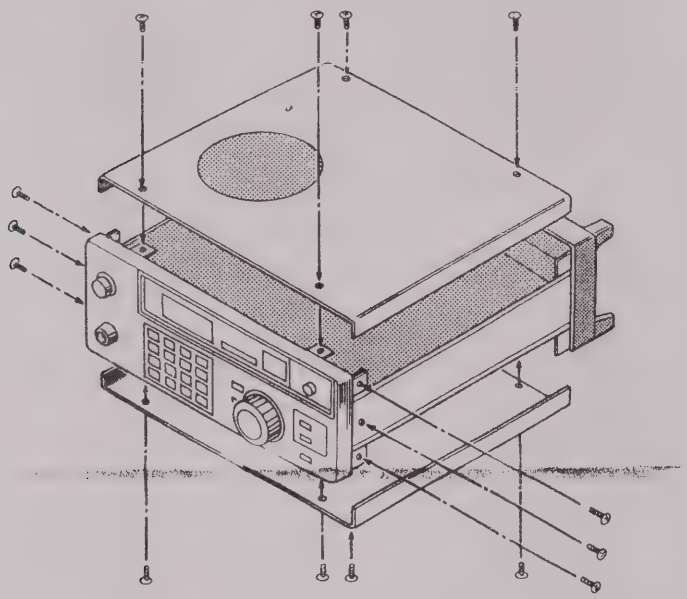
These switches are used to step the operating frequency up or down.
When the UP or DOWN switch is held, the frequency shifts rapidly.

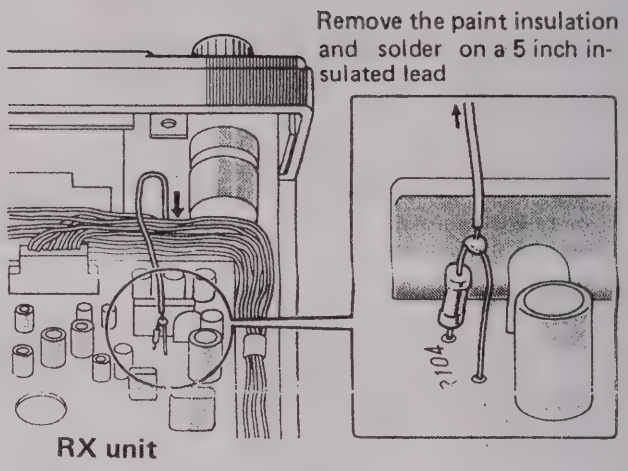
PTT switch

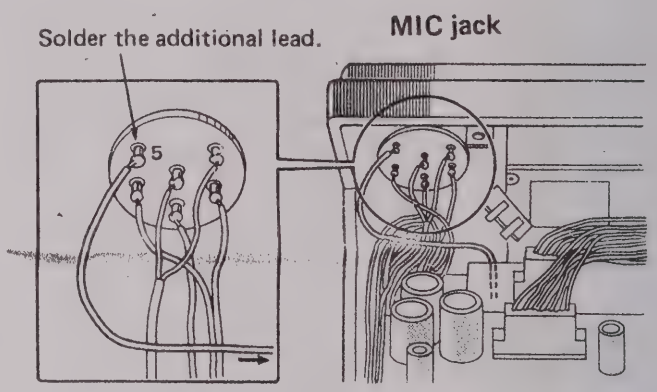
Simply press the PTT switch to activate the transmitter.

TR-7800 & TR-7850

Connect the MC-46 and press any tone key. If the mic does not automatically transmit or if there is no modulation, perform the following wire change. On the RX unit, X55-1270-10, front left hand corner, locate R104, 220Ω 1/4W radial lead resistor, just behind the Mic preamp IC Q30. This will be a source of regulated 8V DC (8C) to operate the MC-46. Carefully remove the paint insulation from the top of the resistor lead and solder on a 5 inch (13 cm) insulated lead from R104 to the Mic jack pin 5.

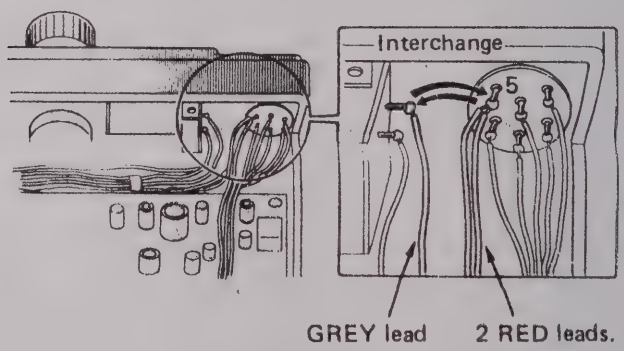




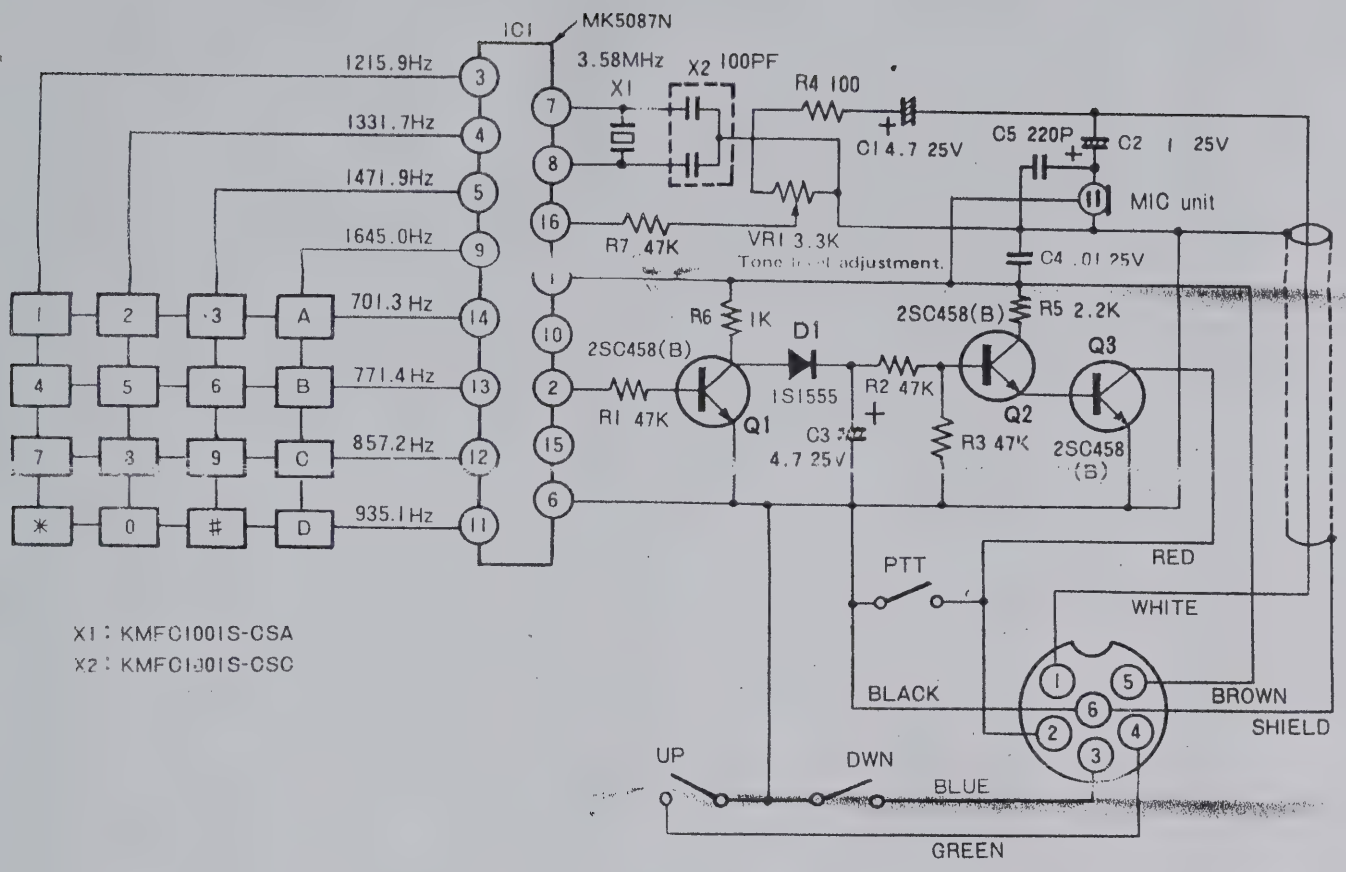


TR-8400 Early models.

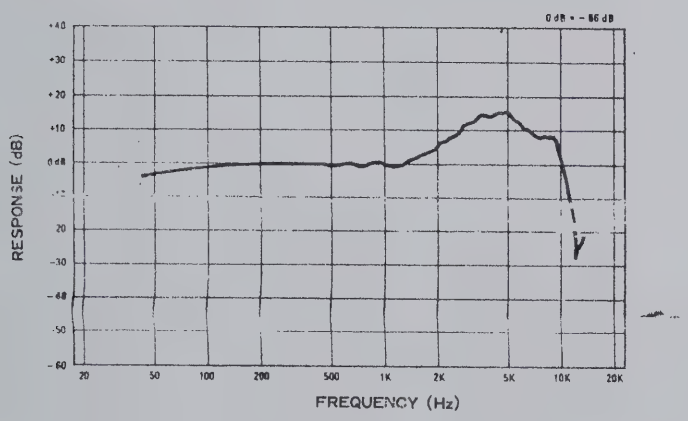
Connect the MC-46 and press any tone key. If the mic does not automatically transmit, perform the following wire change. Pin 5 on the Mic jack will have 2 RED leads, the TONE switch adjacent to the mic jack will have a GREY lead soldered to the common terminal. Desolder these leads and interchange their connections. The two RED leads will now be attached to the TONE switch common terminal, and the GREY lead will be soldered to the mic jack, pin 5.



SCHEMATIC DIAGRAM



FREQUENCY RESPONSE



PARTS LIST

DESCRIPTION	PART NUMBER
Case (Front)	A02-0614-08
Case (Rear)	A02-0615-08
UP button	K29-0746-08
DOWN button	K29-0747-08
PTT knob	K29-0748-08
Coiled cable	E30-1687-08
Bushing	J42-0426-08
Electret microphone element	T97-1024-08
Micro switch	S50-1408-08
Tactile switch	S50-1406-05
IC	MK5087N
Ceramic resonator	L78-0003-05
Key board Ass'y	S59-0407-08
Tone module	W02-0320-08

TR-9000 Early Models

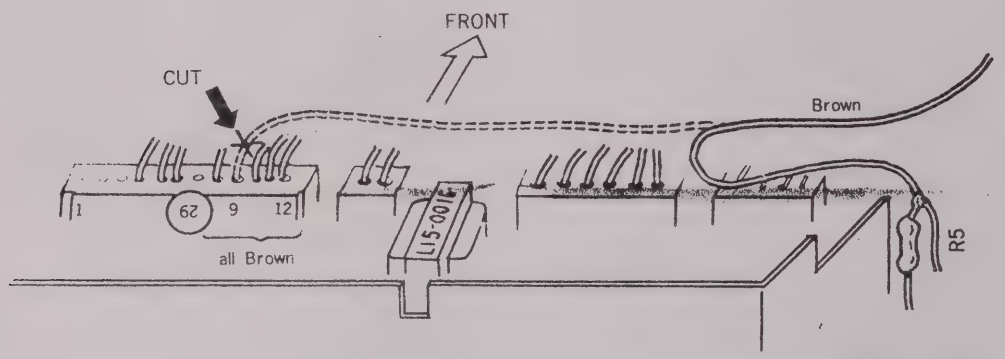
Connect the MC-46 and transmit in SSB. If there is no modulation or output, perform the following wire change in the radio.

1. Remove the top cover by three #2 Phillips screws.
2. Face the rear panel towards you and locate the TX unit X58-1370-10. As illustrated, notice connector 29 with five Brown leads. As positioned, pins are numbered normally, or left to right. Cut the Brown lead at pin 9 just above the connector.
3. At the right of the Board, locate R5, a 1KΩ 1/4W radial lead resistor. Carefully scrape the paint insulation from the resistor lead at the top bend, and solder on the wire cut from connector 29. This will supply constant power to the microphone for all-mode operation.
4. Replace the top cover and three screws

Microphone Tone Level Adjustment

If the tone level output must be adjusted for your particular application, proceed:

1. Remove three screws from the mic case.
2. Carefully lift the keyboard side of the mic from the main body.
3. Swing the top of the P.C.B. up. You will see a trimpot in the center of the Board. Clockwise increases tone level output.
4. After adjustment, replace the P.C.B., back case half, and reinstall three case screws.



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TRIO-KENWOOD (AUSTRALIA) PTY. LTD.
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14-30-279-02 K28

KENWOOD

AUTOPATCH MICROPHONE

MC-46

INSTRUCTION MANUAL

INTRODUCTION

The MODEL MC-46 is an AUTOPATCH MICROPHONE specifically designed to be used with KENWOOD TRANSCEIVER models TR-7800*, TR-7850*, TR-8400* TR-9000* and TR-7730. It features a 16 key AUTOPATCH encoder and frequency UP and DOWN switches.

FEATURES:

1. Microphone is equipped with a tone-pad encoder.
2. Pressing any key automatically places the associated transceiver in transmit mode. A built-in delay holds the microphone (and transceiver) in transmit mode ***for about 0.8 second between key presses.***
3. Micro switch is used for PTT.
4. Specifically designed for transceiver operation to provide good sensitivity and frequency response and clear tones.

APPLICABLE MODEL

TR-9000*, TR-7730, TR-7800*, TR-7850*
TR-8400*

NOTE *: Requires wiring change to the microphone jack.

SPECIFICATIONS

[GENERAL]

Power requirement:	8.5 V DC ± 10%
Current drain:	Less than 20mA (at 8.5 V DC)
Connector:	6 pins
Dimensions:	W 50 x H 73 x D 35 mm
Weight:	145 gr. (Approx.)

[MICROPHONE]

Element:	Electret condensor
Frequency response:	300 Hz ~ 5 kHz (–6 dB)
Sensitivity:	–66 dB (0 dB = 1 V /1 μ bar)
Matching impedance:	500Ω ~ 2 kΩ

[AUTOPATCH]

Key:	16 keys
Tone output:	2 mV (Adjustable)

CONNECTION WIRING

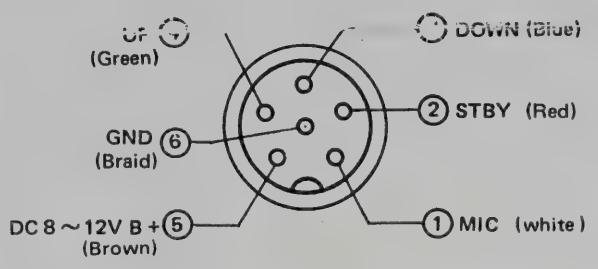


Fig. 1 M'C terminal (Seen from plug side)

OPERATION:

16 Key AUTOPATCH encoder

Press any key and the associated transceiver will be placed in transmit mode (automatic PTT) without pressing the PTT switch.
The transceiver will remain in transmit mode for about 0.8 second between key presses.

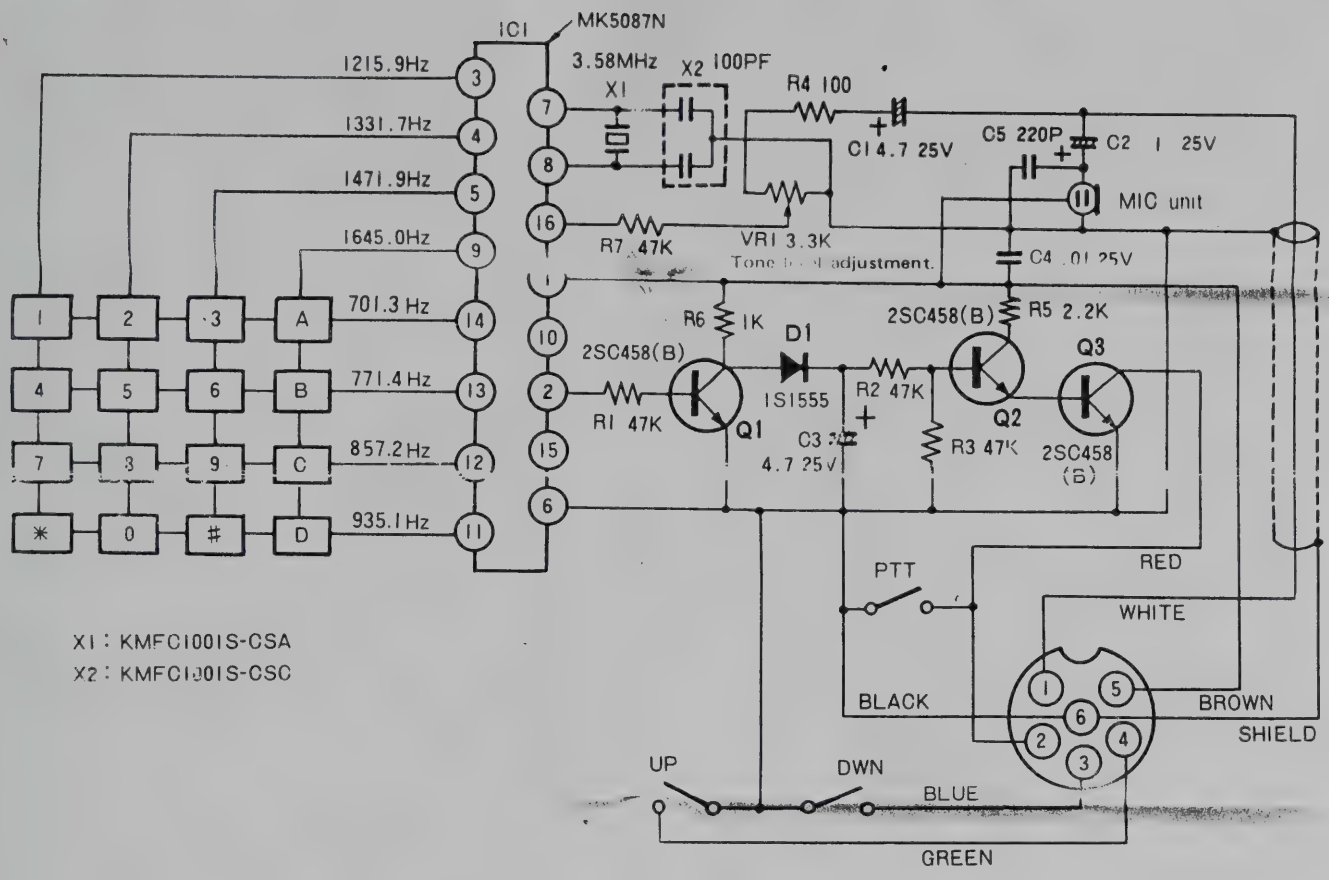
Frequency UP/DOWN switches

These switches are used to step the operating frequency up or down.
When the UP or DOWN switch is held, the frequency shifts rapidly.

PTT switch

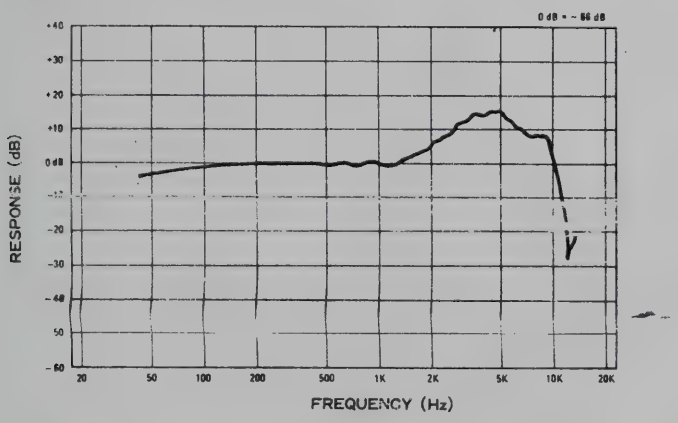
Simply press the PTT switch to activate the transmitter.

SCHEMATIC DIAGRAM



X1 : KMFC1001S-CSA
X2 : KMFC1001S-CSC

FREQUENCY RESPONSE



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Tactile switch	S50-1406-05
IC	MK5087N
Ceramic resonator	L78-0003-05
Key board Ass'y	S59-0407-08
Tone module	W02-0320-08

DYNAMIC MICROPHONE

MC-30S
MC-35S

INSTRUCTION MANUAL

KENWOOD

The MC-30S (MC-35S) is a hand held dynamic microphone specifically developed for transceiver operation.

FEATURES

1. Close talk capability

A selector switch is provided to permit normal or close talk operation.

The close talk feature assures noise-free transmission and improved signal intelligibility.

2. Excellent tone quality

Each microphone is factory tested to ensure maximum performance superb tone quality both in normal and close talk operation.

3. Easy operation and high reliability

Based on human engineering technology, the microphone is designed for easy and fatigueless operation.

The selector slide and PTT micro-switch contribute to the easy operation and high reliability of the microphone.

Both a microphone hook and hanger are provided.

OPERATING PARTS

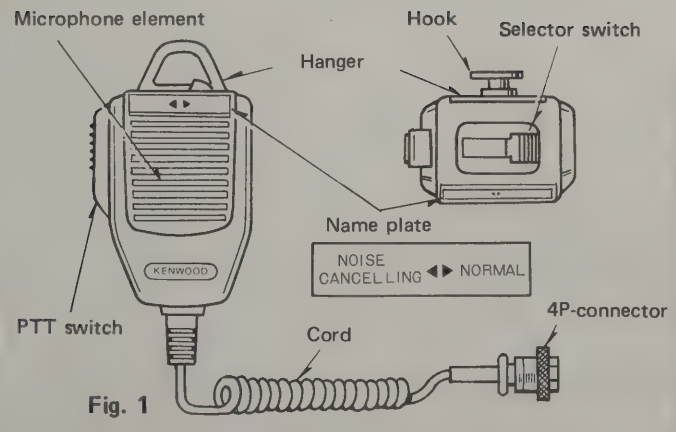


Fig. 1

CAUTION

1. For close talk operation, read this instruction manual carefully.
2. The microphone has precision parts. Do not open the case or substitute any parts.
3. Handle the microphone with reasonable care. Do not subject to excessive mechanical shock.

OPERATING GUIDE

Use the MC-30S with a low input impedance (500Ω) transceiver, and the MC-35S with a high input impedance (50kΩ) transceiver.

1. General operation

NORMAL: Omnidirectional use as a handy microphone during quiet mobile or fixed station operation.

NOISE CANCELLING: Bi-directional use in high ambient noise environments, such as mobile operation when driving with windows opened.

2. Close talk operation

Set the selector switch to the NOISE CANCELLING position. For quiet locations, set the switch to the NORMAL position.

In either case, move the switch until a click is heard.

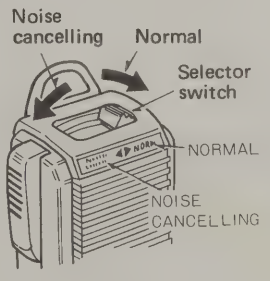


Fig. 2

3. Microphone position for close talk operation.

For best results, hold the microphone about 2 ~ 4cm from your mouth. Do not cover the hole at the rear of the microphone, as it will reduce noise cancelling effectiveness.

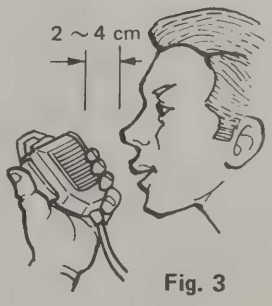
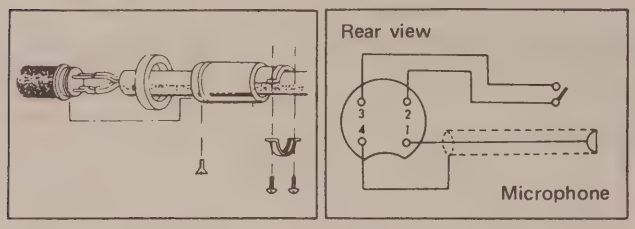


Fig. 3

The MC-30S (MC-35S) microphone is provided with a 4P-connector to permit immediate connection to any KENWOOD transceiver.
If your transceiver is of another manufacturer, it may be necessary to change the connector wiring.
Check that the connector is properly wired before connecting to your transceiver.

4p-connector wiring



Close talk effects:

This selects bi-directional operation of the microphone which is designed to attenuate noise below 1 kHz.
Noise cancelling effect is best obtained when the microphone is held away from the noise source.

Close talk frequency response

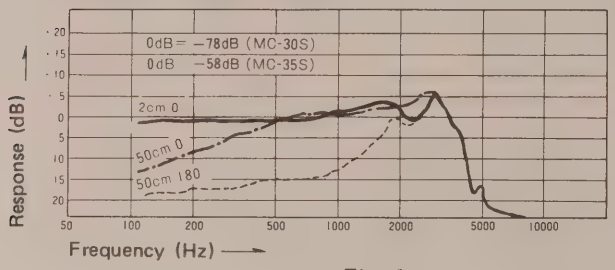


Fig. 4

Normal frequency response

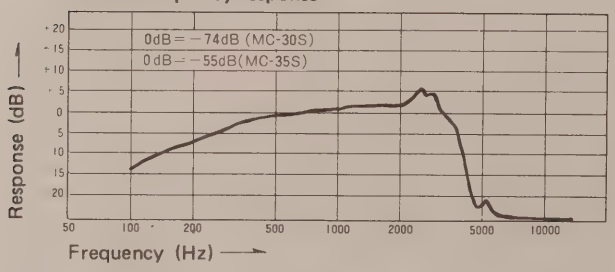


Fig. 5

SPECIFICATIONS

	MC-30S	MC-35S
Type	Dynamic	←
Frequency response		
NORMAL	150 ~ 5000 Hz	←
NOISE CANCELLING	150 ~ 4000 Hz	←
Directivity		
NORMAL	Omini-directional	←
NOISE CANCELLING	Bi-directional	←
Dimensions		
Excluding protrusions	W52 x H84 x D38	←
Including protrusions	W58 x H120 x D45	←
Impedance	500 Ω	50 kΩ
Sensitivity		
NORMAL	−74 dB	−55 dB
NOISE CANCELLING	−78 dB (1000Hz, 2cm)	−58 dB (1000Hz, 2cm)
Weight	210 g	215 g

Polar plot

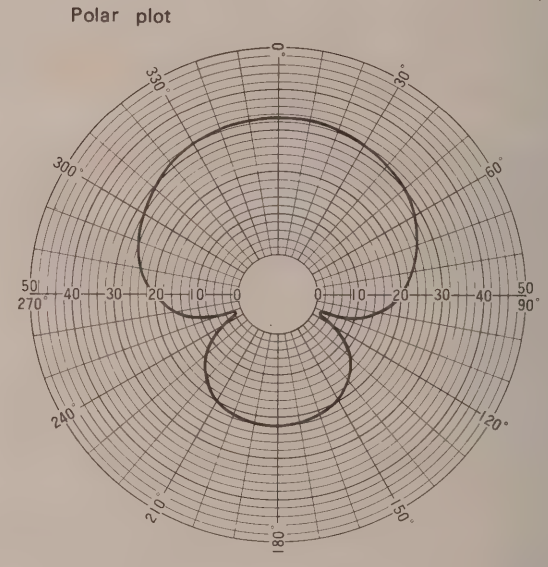


Fig. 6.

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TRIO-KENWOOD CORPORATION
6-17, 3-chome, Aobadai, Meguro-ku, Tokyo 153, Japan

PRINTED IN JAPAN

KENWOOD

AUTOPATCH MICROPHONE

MC-46

INSTRUCTION MANUAL

INTRODUCTION

The MODEL MC-46 is an AUTOPATCH MICROPHONE specifically designed to be used with KENWOOD TRANSCEIVER models TR-7800*, TR-7850*, TR-8400* TR-9000* and TR-7730. It features a 16 key AUTO-PATCH encoder and frequency UP and DOWN switches.

FEATURES:

1. Microphone is equipped with a tone-pad encoder.
2. Pressing any key automatically places the associated transceiver in transmit mode. A built-in delay holds the microphone (and transceiver) in transmit mode for about 0.8 second between key presses.
3. Micro switch is used for PTT.
4. Specifically designed for transceiver operation to provide good sensitivity and frequency response and clear tones.

APPLICABLE MODEL

TR-9000*, TR-7730, TR-7800*, TR-7850*
TR-8400*

NOTE *: Requires wiring change to the microphone jack.

SPECIFICATIONS

[GENERAL]

Power requirement:	8.5 V DC ± 10%
Current drain:	Less than 20mA (at 8.5 V DC)
Connector:	6 pins
Dimensions:	W 50 x H 73 x D 35 mm
Weight:	145 gr. (Approx.)

[MICROPHONE]

Element:	Electret condensor
Frequency response:	300 Hz ~ 5 kHz (–6 dB)
Sensitivity:	–66 dB (0 dB = 1 V /1 μ bar)
Matching impedance:	500Ω ~ 2 kΩ

[AUTOPATCH]

Key:	16 keys
Tone output:	2 mV (Adjustable)

CONNECTION WIRING

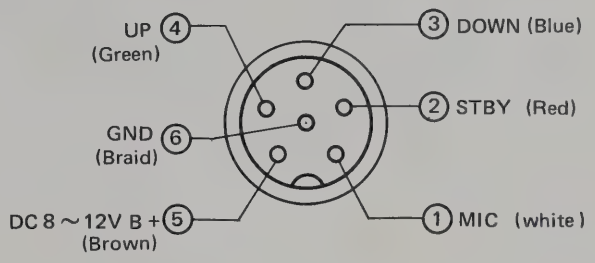


Fig. 1 MIC terminal (Seen from plug side)

OPERATION:

16 Key AUTOPATCH encoder

Press any key and the associated transceiver will be placed in transmit mode (automatic PTT) without pressing the PTT switch.
The transceiver will remain in transmit mode for about 0.8 second between key presses.

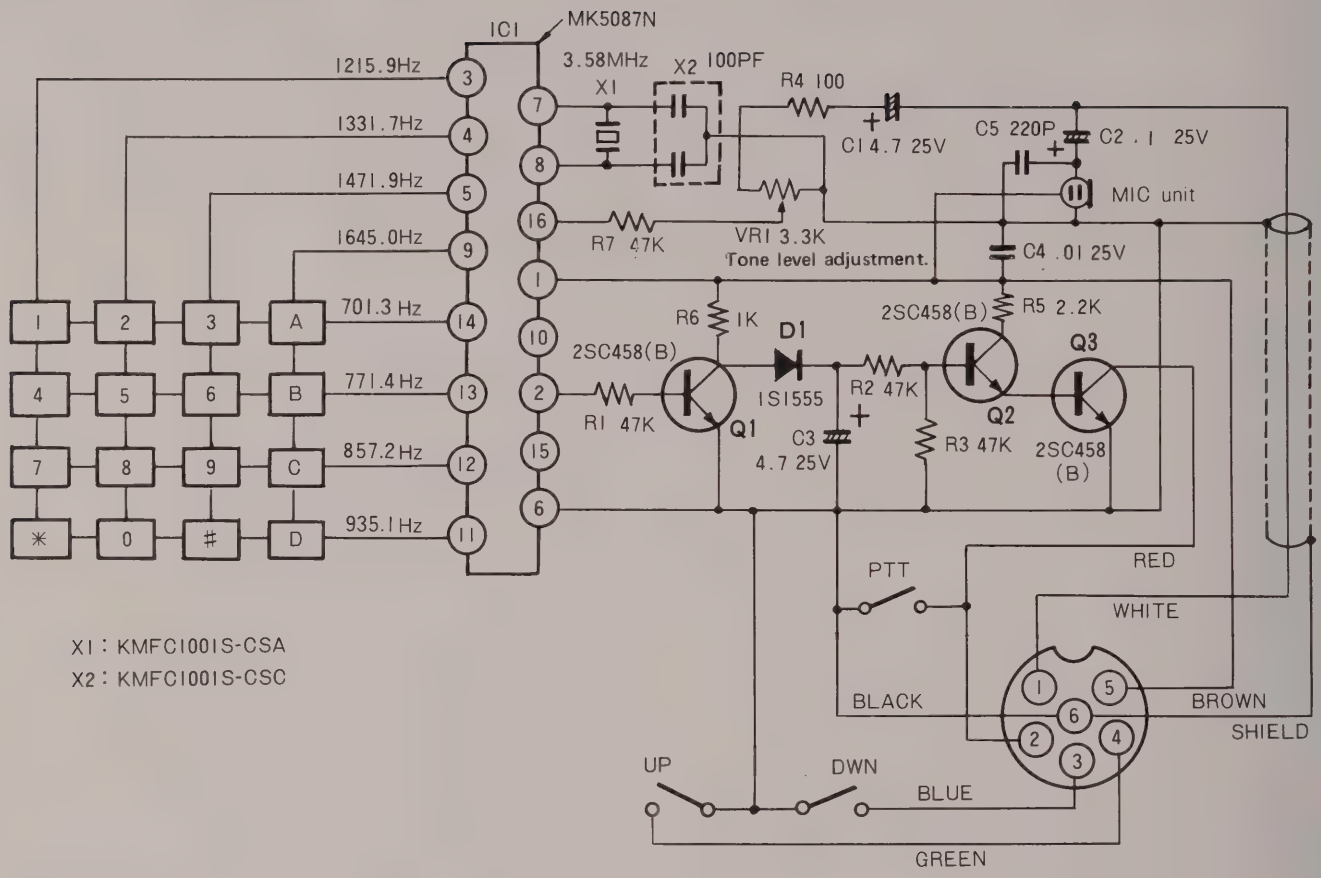
Frequency UP/DOWN switches

These switches are used to step the operating frequency up or down.
When the UP or DOWN switch is held, the frequency shifts rapidly.

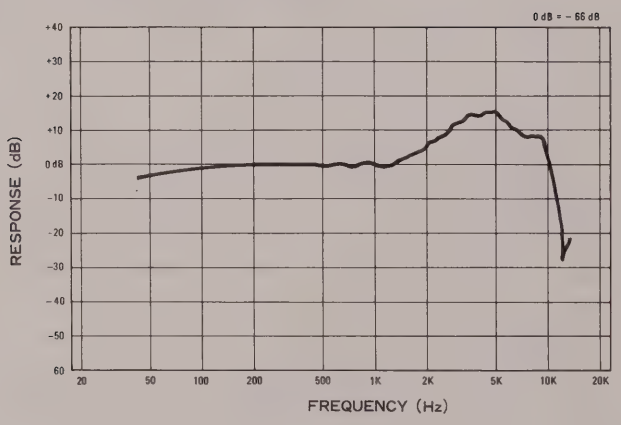
PTT switch

Simply press the PTT switch to activate the transmitter.

SCHEMATIC DIAGRAM



FREQUENCY RESPONSE

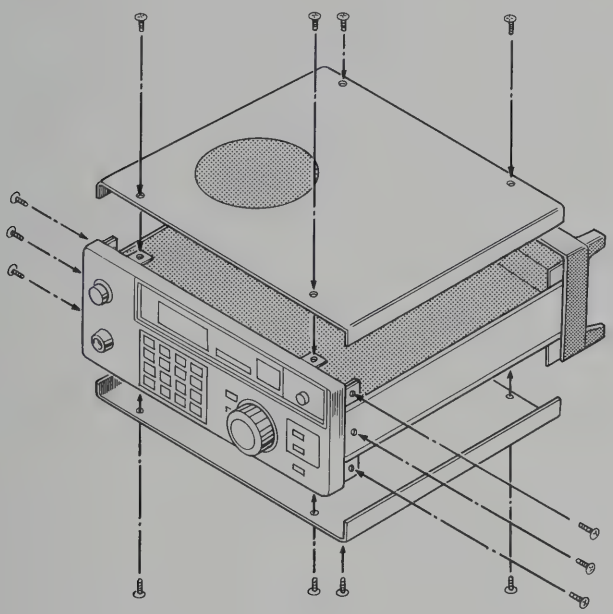


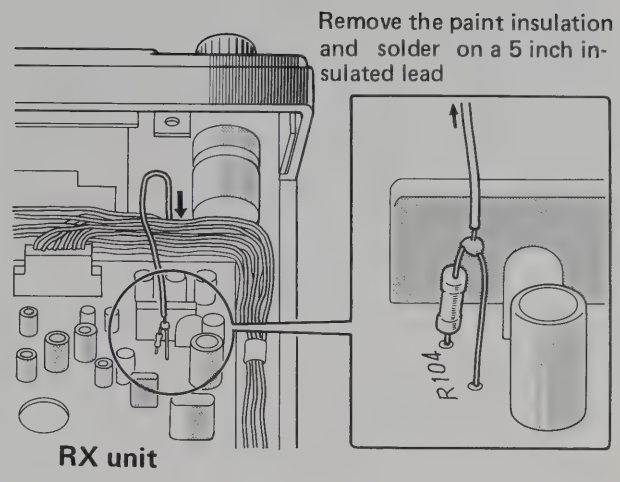
PARTS LIST

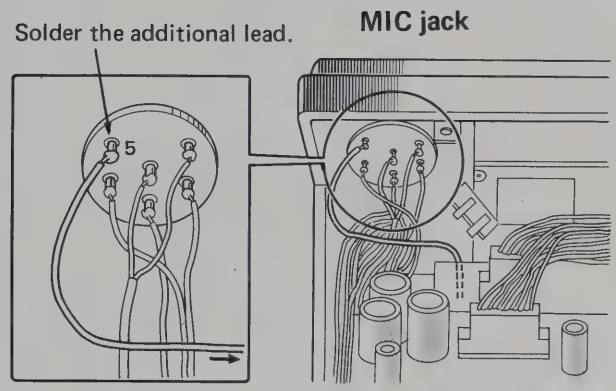
DESCRIPTION	PART NUMBER
Case (Front)	A02-0614-08
Case (Rear)	A02-0615-08
UP button	K29-0746-08
DOWN button	K29-0747-08
PTT knob	K29-0748-08
Coiled cable	E30-1687-08
Bushing	J42-0426-08
Electlet microphone element	T97-1024-08
Micro switch	S50-1408-08
Tactile switch	S50-1406-05
IC	MK5087N
Ceramic resonator	L78-0003-05
Key board Ass'y	S59-0407-08
Tone module	W02-0320-08

TR-7800 & TR-7850

Connect the MC-46 and press any tone key. If the mic does not automatically transmit or if there is no modulation, perform the following wire change. On the RX unit, X55-1270-10, front left hand corner, locate R104, 220Ω 1/4W radial lead resistor, just behind the Mic preamp IC Q30. This will be a source of regulated 8V DC (8C) to operate the MC-46. Carefully remove the paint insulation from the top of the resistor lead and solder on a 5 inch (13 cm) insulated lead from R104 to the Mic jack pin 5.

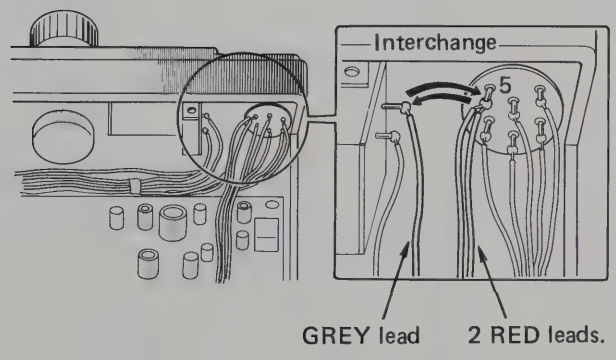






TR-8400 Early models.

Connect the MC-46 and press any tone key. If the mic does not automatically transmit, perform the following wire change. Pin 5 on the Mic jack will have 2 RED leads, the TONE switch adjacent to the mic jack will have a GREY lead soldered to the common terminal. Desolder these leads and interchange their connections. The two RED leads will now be attached to the TONE switch common terminal, and the GREY lead will be soldered to the mic jack, pin 5.



TR-9000 Early Models

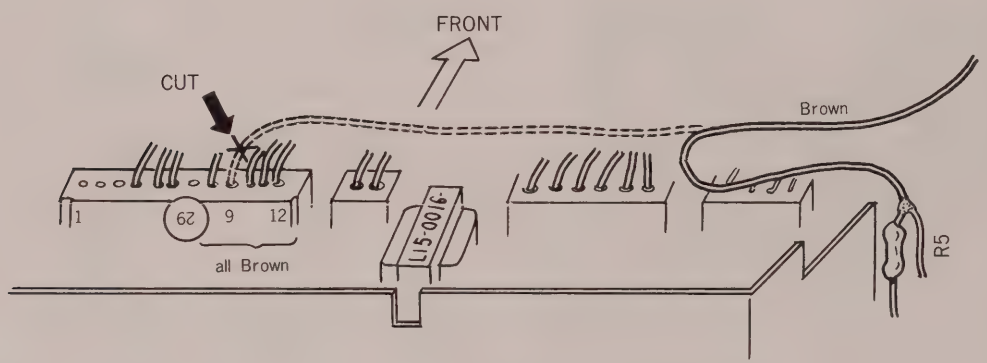
Connect the MC-46 and transmit in SSB. If there is no modulation or output, perform the following wire change in the radio.

1. Remove the top cover by three #2 Phillips screws.
2. Face the rear panel towards you and locate the TX unit X56-1370-10. As illustrated, notice connector 29 with five Brown leads. As positioned, pins are numbered normally, or left to right. Cut the Brown lead at pin 9 just above the connector.
3. At the right of the Board, locate R5, a 1KΩ 1/4W radial lead resistor. Carefully scrape the paint insulation from the resistor lead at the top bend, and solder on the wire cut from connector 29. This will supply constant power to the microphone for all-mode operation.
4. Replace the top cover and three screws.

Microphone Tone Level Adjustment

If the tone level output must be adjusted for your particular application, proceed:

1. Remove three screws from the mic case.
2. Carefully lift the keyboard side of the mic from the main body.
3. Swing the top of the P.C.B. up. You will see a trimpot in the center of the Board. Clockwise increases tone level output.
4. After adjustment, replace the P.C.B., back case half, and reinstall three case screws.



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KENWOOD

HAM CARDIOID DYNAMIC MICROPHONE

MC-50

INSTRUCTIONS MANUAL

The MC-50 has been designed expressly for amateur radio operation as a high-performance microphone, and will match all Trio-Kenwood Amateur Equipment. A splendid addition to your shack, the base unit "Piano key" switches provide easy, smooth switching between transmit and receive. The base is die-cast zinc, providing the weight necessary to make the MC-50 stay put even at contest speeds.

SPECIFICATIONS

Configuration	Dynamic microphone with push-to-talk circuit.
Element	Moving coil type, unidirectional.
Impedance	Dual ratings: Hi-Z 50 k ohm ± 30% (at 1000Hz) Lo-Z 600 ohm ± 30% (at 1000Hz) Selectable: Connector "A" switching
Sensitivity	−56dB ± 3dB/50 k ohm −76dB ± 3dB/600 ohm (0dB=1V/μbar, 1000Hz)
Frequency response	150Hz to 10KHz (−6dB)
Recommended Operation Distance to mic.:	10CM (4") Minimum Distance

OPERATION

The "Piano key" switches provide flexibility in send-receive switching. There are two keys; one for push-to-talk, and the other for Lock Key function. To lock the transmitter ON, press the Lock key. Pressing again returns the system to receive.

INSTALLATION

Impedance Selection.

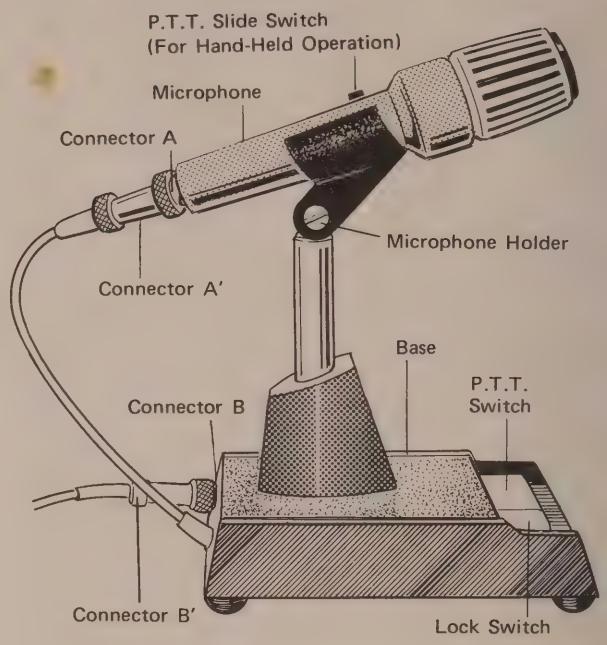
The microphone mounted male connector A is imprinted with a RED H (Hi-Z) and a BLACK L (Lo-Z).

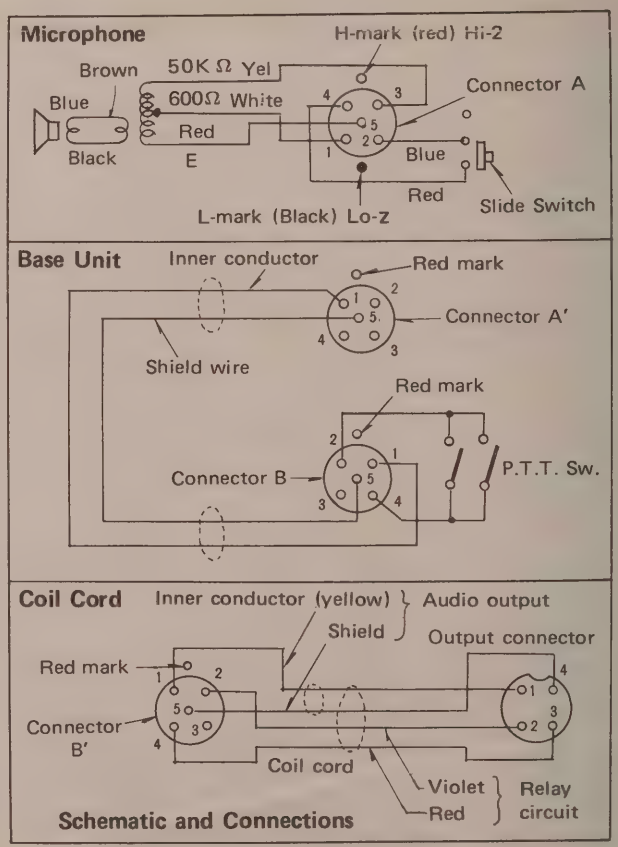
For Hand Held operation, align the Coil Cord connector B' with the appropriate H or L marker. Use the Slide Switch for P.T.T. operation.

For Base mounted operation, align connector A' RED marker with the appropriate H or L marker. When Base-mounted, the Microphone Slide P.T.T. Switch is in-operative-use the Key Switches.

Join the Coil Cord 5 pin female connector B' to the Base 5 pin male connector B so the RED markers align.

Connect the Coil Cord 4 pin female connector to your transceiver.





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KENWOOD

COMMUNICATION MICROPHONE

MC-85

INSTRUCTION MANUAL

FEATURES

The MC-85 is designed for use with a wide range of communication equipment. The microphone's silver and dark gray colors match the various KENWOOD communication units.

1. Employs a high quality uni-directional electret condenser microphone. Gives excellent high frequency characteristics and prevent pickup of undesirable noise.
2. Complete with an UP/DOWN switch and an electronic LOCK-PTT switch.
3. The microphone has an output select circuit and can be connected to three transceivers.
4. Because of the built-in limiter circuit, voice can be heard more clearly. This makes it ideal for DX operation.
5. Microphone output is indicated by a level meter.
6. A sound quality select circuit is provided, which can be switched between DX and local operation.
7. Power ON/OFF and transmitting are indicated by LEDs.

Controls and their functions [Fig-1]

1) Mic unit
The MC-85 is a uni-directional electret condenser microphone. A windscreen is supplied.

2) Gooseneck
The MC-85 uses a gooseneck to hold the mic unit. This allows the microphone to be easily repositioned.

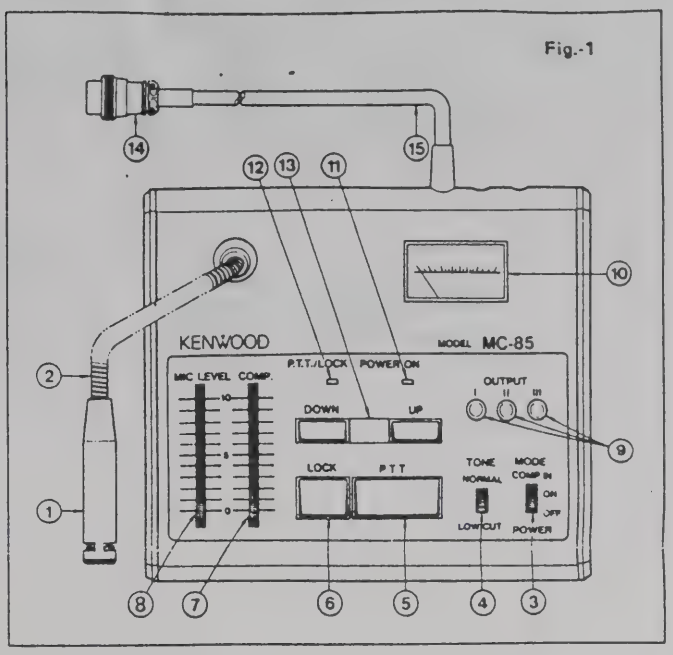
3) MODE/POWER switch
Placing the POWER switch on turns on the unit and lights the LED (11). Switching to COMP. IN activates the built-in compressor.

4) TONE switch
Used to change transmitter sound quality. For normal communications, set the switch to NORMAL. When additional clarity is needed, set the switch to LOW CUT.

5) PTT switch
Depressing the PTT switch allows transmission and releasing it switches the unit from transmission to reception. There is no need to depress it forcefully.

6) LOCK switch
Depressing the switch once allows transmission. Depressing the switch again returns the unit to the receive mode. This switch is used for long transmissions. Use either switch (5) or (6) according to the type of communications. When either of these switches is used for transmission, the LED PTT/LOCK (12) lights red.

Fig.-1



7) Audio level compensation control
This slide control is used to control the level of the built-in Audio Level Compensation.

8) Mic level control
This slide control is used to control the mic gain.

9) Output select switch
Depressing the switch selects the output. The output cable is connected to I. Therefore depress the I switch. For use of switch II or III, an optional PG-4 should be connected to the MC-85. Then, up to three transceivers can be used with this microphone.

10) Level meter
Indicates the output level.

11) POWER ON LED
Lights when the power is ON and shows that the MC-85 is in the operation.

12) PTT/LOCK LED
Lights when the PTT or the LOCK switch is ON and indicates transmission mode.

13) UP/DOWN switch
This switch interconnects the transceiver's UP/DOWN functions and shifts the operating frequency up or down. For a transceiver without an UP/DOWN tuning function, the operation of this switch is disregarded.

14) Mic connector
The MC-85 employs a standard 8-pin plug for connection. When connecting the microphone to a mic jack other than 8-pin, use an adaptor plug. Fig. 2 shows the internal wiring connection. Table 1 shows the relationship between the microphone and Kenwood equipment.

15) Output cable
Length: 1 m . . . . . 6-conductor cable

Transceiver	Mic jack	Mic cable and adapter	Power supply	Note
TM-201A, TM-401A TR-7930, TR-7950 TS-430*1 series TS-930*1 series TS-660, TS-780*1	8 pin	PG-4F Adapter not needed.	Supplied from the transceiver	*1 Some of the MIC terminal in these models do not apply power to the microphone. (Refer to your transceiver instruction manual.) In this case, use 4 "AA" batteries.
TW-4000A*2	8 pin		Use 4 "AA" batteries.	*2 Radios with power available at the mic connector (for autopatch microphones) will not require batteries.
TR-7700/8400*2 series TR-9000*2 series	6 pin	PG-4E MJ-86		
TR-7200/7500 series TS-120/130 series TS-520/530 series TS-820/830 series	4 pin	PG-4D MJ-84		
Transceiver of another manufacturer	Refer to the transceiver owners manual: change the wiring or use an adapter.			

■BEFORE OPERATION

1. Power supply

Since the MC-85 uses an electret condenser microphone and mic-amplifier, power is required for operation. If your transceiver as shown in the table above will require batteries, install batteries according to the following.

(1) Obtain four (4) common "AA" cells.
(2) Remove the lid as shown in Fig. 2. Install the batteries observing correct polarity. Replace the lid.
(3) After the batteries are installed, place the POWER switch ON and verify that the LED lights.

2. Mic plug connection

Connect the mic plug to the transceiver. For a transceiver having other than an 8-pin mic jack, use an optional adaptor. Be sure output select switch I (9) is depressed (in). With either switch II or III depressed, no mic output is present at mic plug I.

After this initial set-up, set the transceiver to a phone mode (SSB, FM, etc.).

3. Voice level setting

Before transmitting, set the mic level of the MC-85. Speak into the microphone with your normal voice and the PTT switch depressed, and adjust the MIC LEVEL volume. Then verify the transmitters output. The optimum input level varies depending upon the transmitter. However, a mic output level less than or equal to −50 dB usually provides enough modulation. Prior to transmitting or operating, it is recommended that a dummy load be connected to the transmitter and the ALC level is carefully checked in the transmit mode.

4. Use of the Audio Level Compensation

The MC-85 has a built-in audio level compensation circuit which maintains a constant audio level at various voice frequencies when used properly.

It especially effective when your signal is weak.

The limiting circuit raise the average output by leveling the voice peaks. This function, prevents splatter and improves the readablity of weak signal. For best results with your MC-85, always use the compensation circuitry properly.

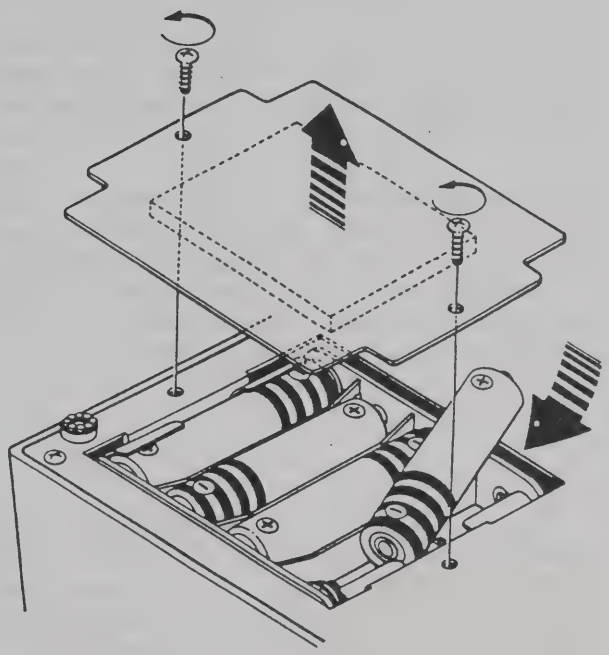


Fig. 2 Battery installation

The level setting will vary depending upon DX operation, contest, latenight operation at low voice levels, or operation with background noise. Adjust the level according to the particular station. This circuit is similar in operation to a preemphasis network in FM equipment.

ex. For an SSB transceiver, run the transceiver mic gain for a low (¼ scale) ALC reading. Set the MC-85 mic level for approximately −50dB on the built-in meter. Maintain 10 − 15 cm distance to the microphone, adjust compression for an on-scale ALC reading on the radio's meter, without excess background noise.

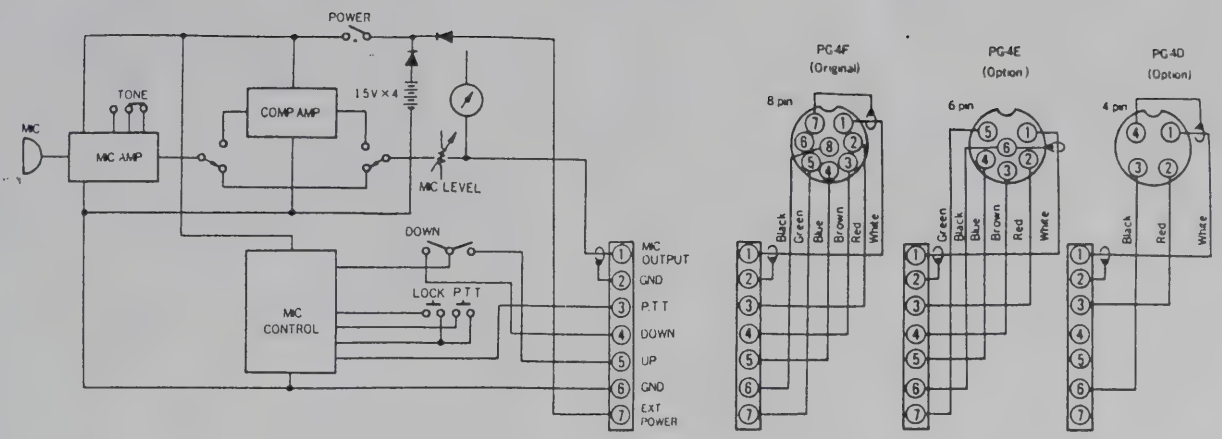


Fig. 3 MC-85 Block diagram & mic plug connection

5. Additional output cables (Fig. 4)

For connection to more than one transceiver, optional cables with 4, 6 and 8-pin plugs are available. For output cable connection, refer to Fig. 3.

The MC-85 is supplied with a standard PG-4F (8 pin) mic cable. For radios with a four pin mic connector, use a PG-4D (4 pin) option cable. For radios with a six pin mic connector, use a PG-4E (6 pin) option cable.

6. VOX operation

For VOX operation, there is no need to touch the PTT or LOCK switch. Make sure power is ON. The general operating procedure is as already described. However, if the compressor is on back ground sound other than voice may switch the transceiver into the transmit mode. To prevent this, be careful of the mic level setting. During VOX operation, the PTT and LOCK LEDs do not light.

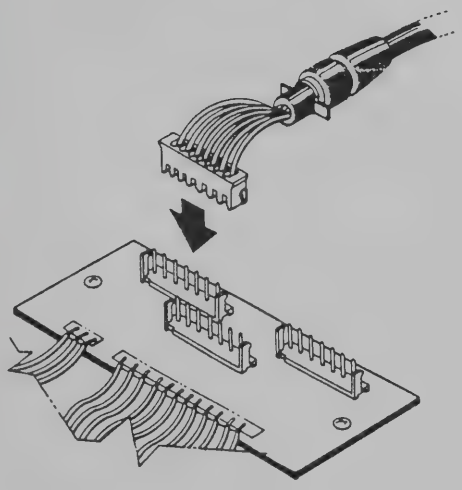


Fig-4. Additonal output cable

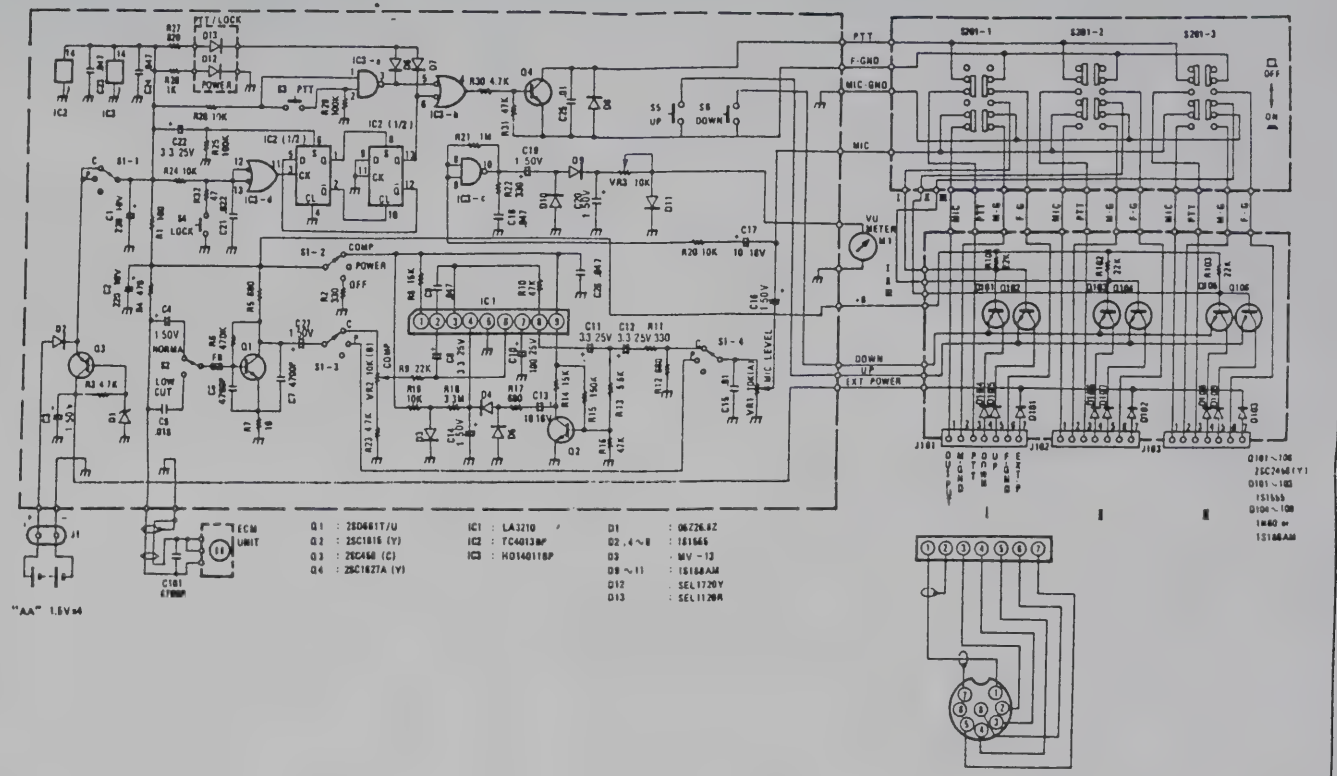
■PRECAUTIONS

1. Do not disassemble or otherwise modify the mic assembly, or the mic characteristics may be altered.
2. The microphone is delicate. Be sure not to jar or shock the microphone element.
3. Ensure that power is turned off when the mic is not used.
4. Maintain a distance of 10 ~ 15 cm to the mic to ensure best clarity. If the mic is "close-talked", clarity may drop.
5. When the compressor is in operation, applying an extreme sound pressure (for example, speaking loudly into the mic, or tapping the mic unit) may instantaneously reduce the output power. This is not a fault.
6. When the battery voltage drops due to depletion, the power output will drop and distortion may occur. Replace the battery.

■SPECIFICATIONS

Mic unit . . . . . Uni-directional electret condenser
Output impedance . . . . . Approx. 700 ohms at 1,000 Hz
Sensitivity (0 dB = 1 V/μbar 1,000 Hz) . .MIC LEVEL MAX.
COMP. OFF . . . . . –40 dB ± 6 dB
COMP. IN . . . . . –34 dB ± 6 dB
Frequency characteristic
NORMAL . . . . . 300 ~ 7,000 Hz (± 6 dB)
LOW CUT . . . . . Approx. –12 dB at 300 Hz
Audio Level Compensation
MAX. Compression level . . . . . 35 dB ± 3 dB
MAX. Input level . . . . . –30 dB ± 4 dB
Power supply
. . . . . Batteries 6V (1.5 V x 4 "AA" cells ... not supplied)
. . . . . .(Battery life greater than 400 hour, estimated)
Current comsumption
. . . . . .Approx. 11 mA (transmit mode)
Dimensions (mm) & Weight
. . . . . .177W x 55 (270)H x 157 (180)D, 1 kg (2.2 lbs)
(Figures in ( ) include projections.)

MC-85 SCHEMATIC DIAGRAM



KENWOOD

COMMUNICATION MICROPHONE

MC-85

INSTRUCTION MANUAL

FEATURES

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1. Employs a high quality uni-directional electret condenser microphone. Gives excellent high frequency characteristics and prevent pickup of undesirable noise.
2. Complete with an UP/DOWN switch and an electronic LOCK-PTT switch.
3. The microphone has an output select circuit and can be connected to three transceivers.
4. Because of the built-in limiter circuit, voice can be heard more clearly. This makes it ideal for DX operation.
5. Microphone output is indicated by a level meter.
6. A sound quality select circuit is provided, which can be switched between DX and local operation.
7. Power ON/OFF and transmitting are indicated by LEDs.

Controls and their functions [Fig-1]

1) Mic unit

The MC-85 is a uni-directional electret condenser microphone. A windscreen is supplied.

2) Gooseneck

The MC-85 uses a gooseneck to hold the mic unit. This allows the microphone to be easily repositioned.

3) MODE/POWER switch

Placing the POWER switch on turns on the unit and lights the LED (11). Switching to COMP. IN activates the built-in compressor.

4) TONE switch

Used to change transmitter sound quality. For normal communications, set the switch to NORMAL. When additional clarity is needed, set the switch to LOW CUT.

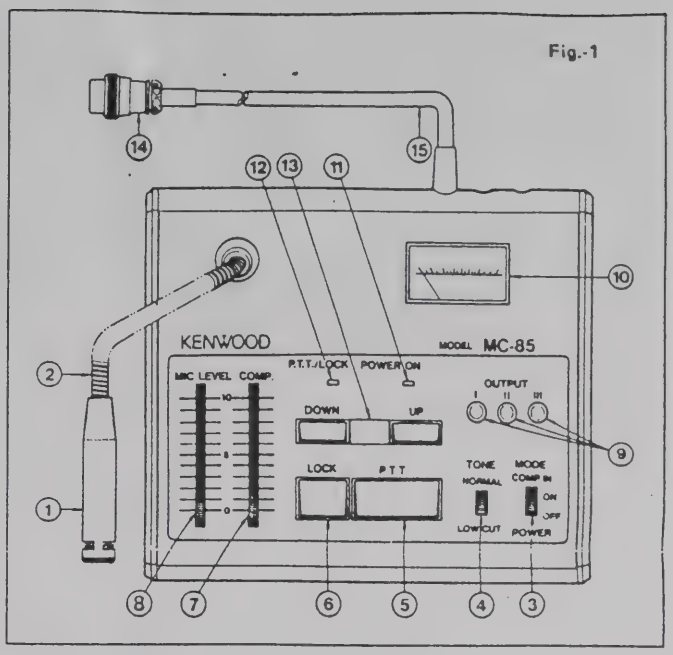
5) PTT switch

Depressing the PTT switch allows transmission and releasing it switches the unit from transmission to reception. There is no need to depress it forcefully.

6) LOCK switch

Depressing the switch once allows transmission. Depressing the switch again returns the unit to the receive mode. This switch is used for long transmissions. Use either switch (5) or (6) according to the type of communications. When either of these switches is used for transmission, the LED PTT/LOCK (12) lights red.

Fig.-1



7) Audio level compensation control

This slide control is used to control the level of the built-in Audio Level Compensation.

8) Mic level control

This slide control is used to control the mic gain.

9) Output select switch

Depressing the switch selects the output. The output cable is connected to I. Therefore depress the I switch. For use of switch II or III, an optional PG-4 should be connected to the MC-85. Then, up to three transceivers can be used with this microphone.

10) Level meter

Indicates the output level.

11) POWER ON LED

Lights when the power is ON and shows that the MC-85 is in the operation.

12) PTT/LOCK LED

Lights when the PTT or the LOCK switch is ON and indicates transmission mode.

13) UP/DOWN switch

This switch interconnects the transceiver's UP/DOWN functions and shifts the operating frequency up or down. For a transceiver without an UP/DOWN tuning function, the operation of this switch is disregarded.

14) Mic connector

The MC-85 employs a standard 8-pin plug for connection. When connecting the microphone to a mic jack other than 8-pin, use an adaptor plug. Fig. 2 shows the internal wiring connection. Table 1 shows the relationship between the microphone and Kenwood equipment.

15) Output cable

Length: 1 m . . . . . 6-conductor cable

Transceiver	Mic jack	Mic cable and adapter	Power supply	Note
TM-201A, TM-401A TR-7930, TR-7950 TS-430*1 series TS-930*1 series TS-660, TS-780*1	8 pin	PG-4F Adapter not needed.	Supplied from the transceiver	*1 Some of the MIC terminal in these models do not apply power to the microphone. (Refer to your transceiver instruction manual.) In this case, use 4 "AA" batteries.
TW-4000A*2	8 pin		Use 4 "AA" batteries.	*2 Radios with power available at the mic connector (for autopatch microphones) will not require batteries.
TR-7700/8400*2 series TR-9000*2 series	6 pin	PG-4E MJ-86		
TR-7200/7500 series TS-120/130 series TS-520/530 series TS-820/830 series	4 pin	PG-4D MJ-84		
Transceiver of another manufacturer	Refer to the transceiver owners manual: change the wiring or use an adapter.			

■BEFORE OPERATION

1. Power supply

Since the MC-85 uses an electret condenser microphone and mic-amplifier, power is required for operation. If your transceiver as shown in the table above will require batteries, install batteries according to the following.

(1) Obtain four (4) common "AA" cells.
(2) Remove the lid as shown in Fig. 2. Install the batteries observing correct polarity. Replace the lid.
(3) After the batteries are installed, place the POWER switch ON and verify that the LED lights.

2. Mic plug connection

Connect the mic plug to the transceiver. For a transceiver having other than an 8-pin mic jack, use an optional adaptor. Be sure output select switch I (9) is depressed (in). With either switch II or III depressed, no mic output is present at mic plug I.

After this initial set-up, set the transceiver to a phone mode (SSB, FM, etc.).

3. Voice level setting

Before transmitting, set the mic level of the MC-85. Speak into the microphone with your normal voice and the PTT switch depressed, and adjust the MIC LEVEL volume. Then verify the transmitters output. The optimum input level varies depending upon the transmitter. However, a mic output level less than or equal to −50 dB usually provides enough modulation. Prior to transmitting or operating, it is recommended that a dummy load be connected to the transmitter and the ALC level is carefully checked in the transmit mode.

4. Use of the Audio Level Compensation

The MC-85 has a built-in audio level compensation circuit which maintains a constant audio level at various voice frequencies when used properly.

It especially effective when your signal is weak.

The limiting circuit raise the average output by leveling the voice peaks. This function, prevents splatter and improves the readablity of weak signal. For best results with your MC-85, always use the compensation circuitry properly.

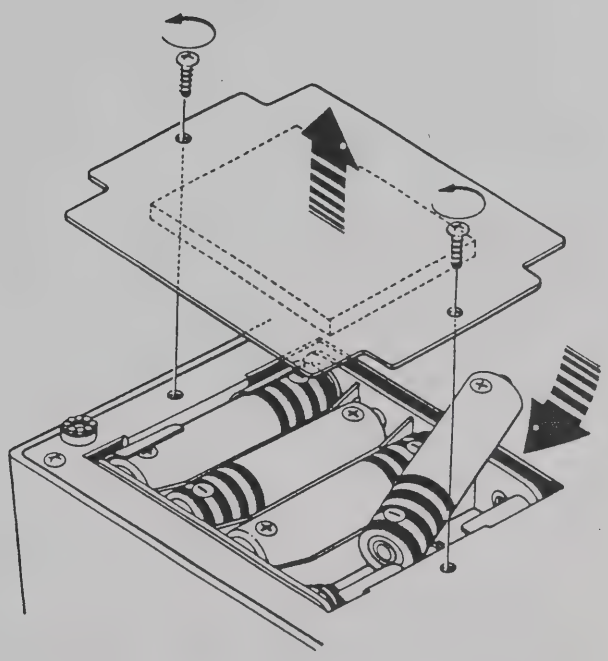


Fig. 2 Battery installation

The level setting will vary depending upon DX operation, contest, latenight operation at low voice levels, or operation with background noise. Adjust the level according to the particular station. This circuit is similar in operation to a preemphasis network in FM equipment.

ex. For an SSB transceiver, run the transceiver mic gain for a low (¼ scale) ALC reading. Set the MC-85 mic level for approximately −50dB on the built-in meter. Maintain 10 − 15 cm distance to the microphone, adjust compression for an on-scale ALC reading on the radio's meter, without excess background noise.

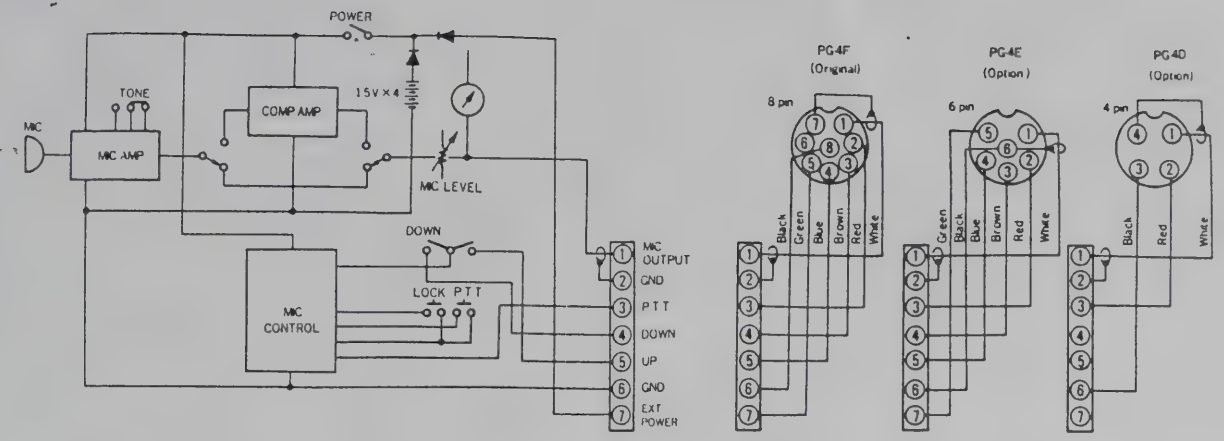


Fig. 3 MC-85 Block diagram & mic plug connection

5. **Additional output cables (Fig. 4)**
   For connection to more than one transceiver, optional cables with 4, 6 and 8-pin plugs are available. For output cable connection, refer to Fig. 3.

   The MC-85 is supplied with a standard PG-4F (8 pin) mic cable. For radios with a four pin mic connector, use a PG-4D (4 pin) option cable. For radios with a six pin mic connector, use a PG-4E (6 pin) option cable.

6. **VOX operation**
   For VOX operation, there is no need to touch the PTT or LOCK switch. Make sure power is ON. The general operating procedure is as already described. However, if the compressor is on back ground sound other than voice may switch the transceiver into the transmit mode. To prevent this, be careful of the mic level setting. During VOX operation, the PTT and LOCK LEDs do not light.

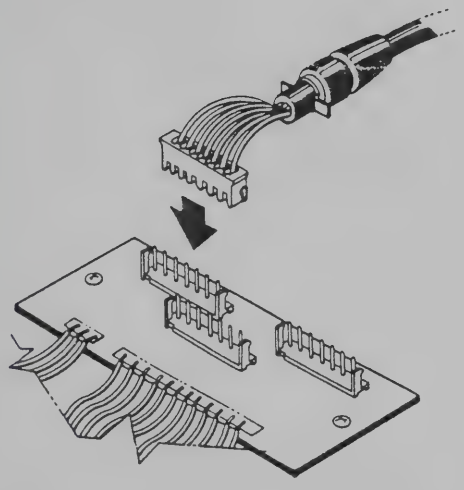


Fig-4. Additonal output cable

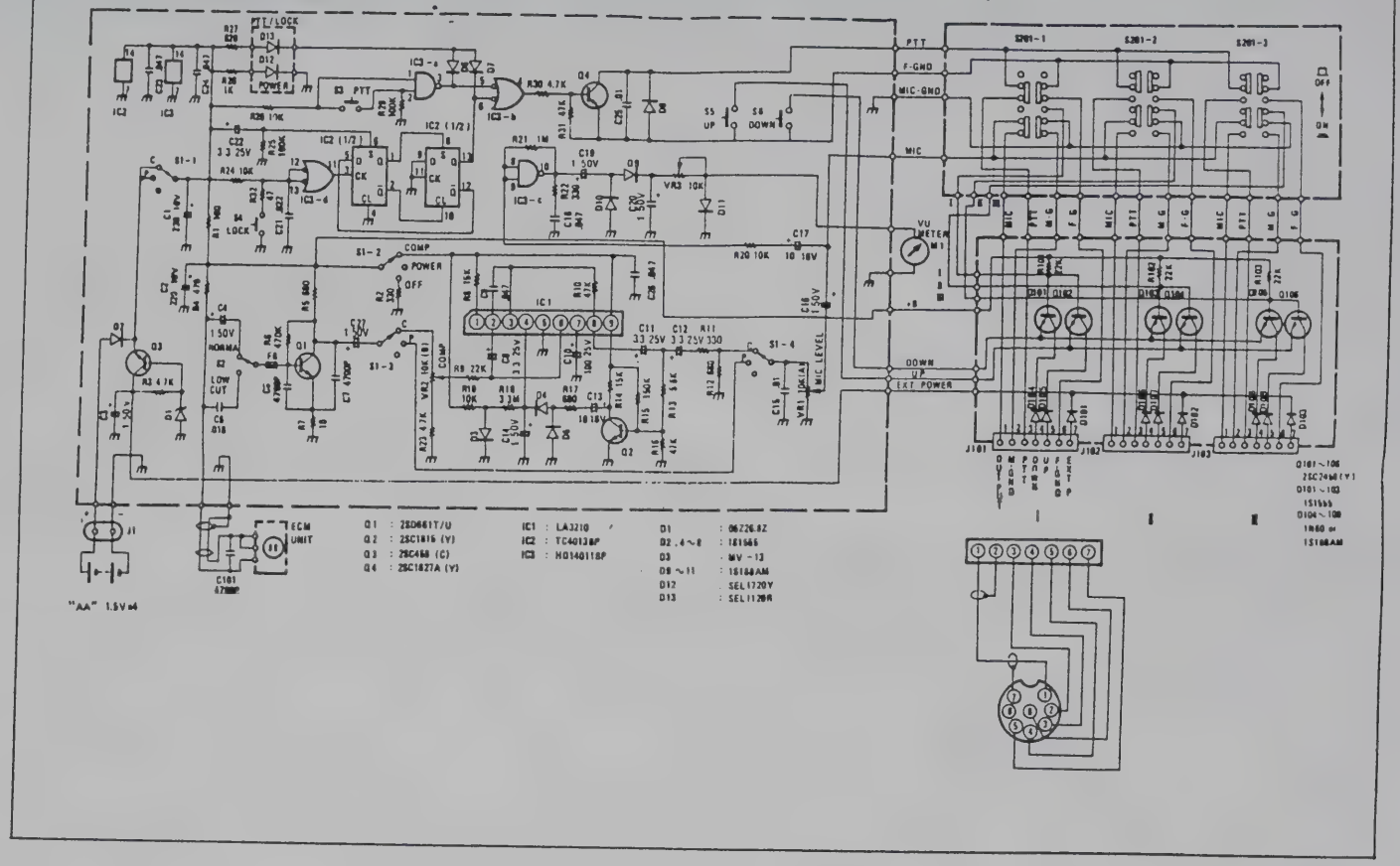
■PRECAUTIONS

1. Do not disassemble or otherwise modify the mic assembly, or the mic characteristics may be altered.
2. The microphone is delicate. Be sure not to jar or shock the microphone element.
3. Ensure that power is turned off when the mic is not used.
4. Maintain a distance of 10 ~ 15 cm to the mic to ensure best clarity. If the mic is "close-talked", clarity may drop.
5. When the compressor is in operation, applying an extreme sound pressure (for example, speaking loudly into the mic, or tapping the mic unit) may instantaneously reduce the output power. This is not a fault.
6. When the battery voltage drops due to depletion, the power output will drop and distortion may occur. Replace the battery.

■SPECIFICATIONS

Mic unit . . . . . Uni-directional electret condenser
Output impedance . . . . . Approx. 700 ohms at 1,000 Hz
Sensitivity (0 dB = 1 V/μbar 1,000 Hz) . .MIC LEVEL MAX.
COMP. OFF . . . . . –40 dB ± 6 dB
COMP. IN . . . . . –34 dB ± 6 dB
Frequency characteristic
NORMAL . . . . . 300 ~ 7,000 Hz (± 6 dB)
LOW CUT . . . . . Approx. –12 dB at 300 Hz
Audio Level Compensation
MAX. Compression level . . . . . 35 dB ± 3 dB
MAX. Input level . . . . . –30 dB ± 4 dB
Power supply
. . . . . Batteries 6V (1.5 V x 4 "AA" cells ... not supplied)
. . . . . .(Battery life greater than 400 hour, estimated)
Current comsumption
. . . . . .Approx. 11 mA (transmit mode)
Dimensions (mm) & Weight
. . . . . .177W x 55 (270)H x 157 (180)D, 1 kg (2.2 lbs)
(Figures in ( ) include projections.)

MC-85 SCHEMATIC DIAGRAM



KENWOOD

COMMUNICATION MICROPHONE

MC-85

INSTRUCTION MANUAL

FEATURES

The MC-85 is designed for use with a wide range of communication equipment. The microphone's silver and dark gray colors match the various KENWOOD communication units.

1. Employs a high quality uni-directional electret condenser microphone. Gives excellent high frequency characteristics and prevent pickup of undesirable noise.
2. Complete with an UP/DOWN switch and an electronic LOCK-PTT switch.
3. The microphone has an output select circuit and can be connected to three transceivers.
4. Because of the built-in limiter circuit, voice can be heard more clearly. This makes it ideal for DX operation.
5. Microphone output is indicated by a level meter.
6. A sound quality select circuit is provided, which can be switched between DX and local operation.
7. Power ON/OFF and transmitting are indicated by LEDs.

Controls and their functions [Fig-1]

1) Mic unit
The MC-85 is a uni-directional electret condenser microphone. A windscreen is supplied.

2) Gooseneck
The MC-85 uses a gooseneck to hold the mic unit. This allows the microphone to be easily repositioned.

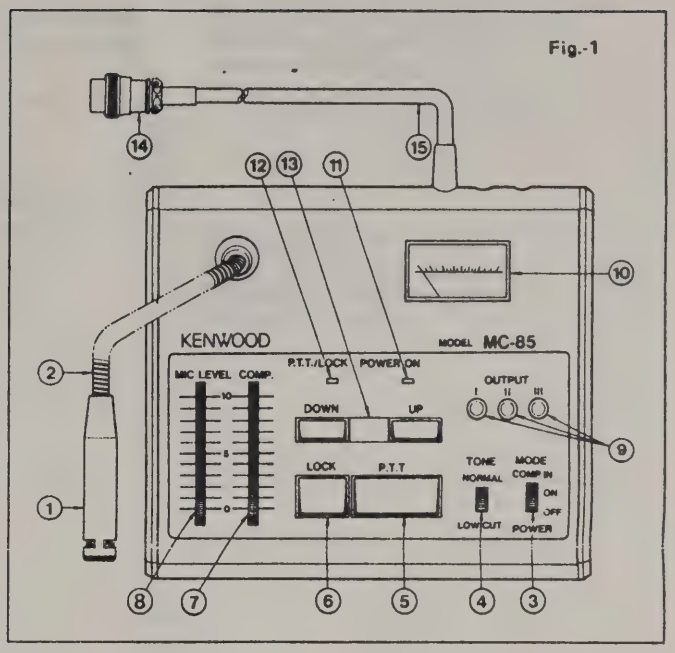
3) MODE/POWER switch
Placing the POWER switch on turns on the unit and lights the LED (11). Switching to COMP. IN activates the built-in compressor.

4) TONE switch
Used to change transmitter sound quality. For normal communications, set the switch to NORMAL. When additional clarity is needed, set the switch to LOW CUT.

5) PTT switch
Depressing the PTT switch allows transmission and releasing it switches the unit from transmission to reception. There is no need to depress it forcefully.

6) LOCK switch
Depressing the switch once allows transmission. Depressing the switch again returns the unit to the receive mode. This switch is used for long transmissions. Use either switch (5) or (6) according to the type of communications. When either of these switches is used for transmission, the LED PTT/LOCK (12) lights red.

Fig.-1



7) Audio level compensation control
This slide control is used to control the level of the built-in Audio Level Compensation.

8) Mic level control
This slide control is used to control the mic gain.

9) Output select switch
Depressing the switch selects the output. The output cable is connected to I. Therefore depress the I switch. For use of switch II or III, an optional PG-4 should be connected to the MC-85. Then, up to three transceivers can be used with this microphone.

10) Level meter
Indicates the output level.

11) POWER ON LED
Lights when the power is ON and shows that the MC-85 is in the operation.

12) PTT/LOCK LED
Lights when the PTT or the LOCK switch is ON and indicates transmission mode.

13) UP/DOWN switch
This switch interconnects the transceiver's UP/DOWN functions and shifts the operating frequency up or down. For a transceiver without an UP/DOWN tuning function, the operation of this switch is disregarded.

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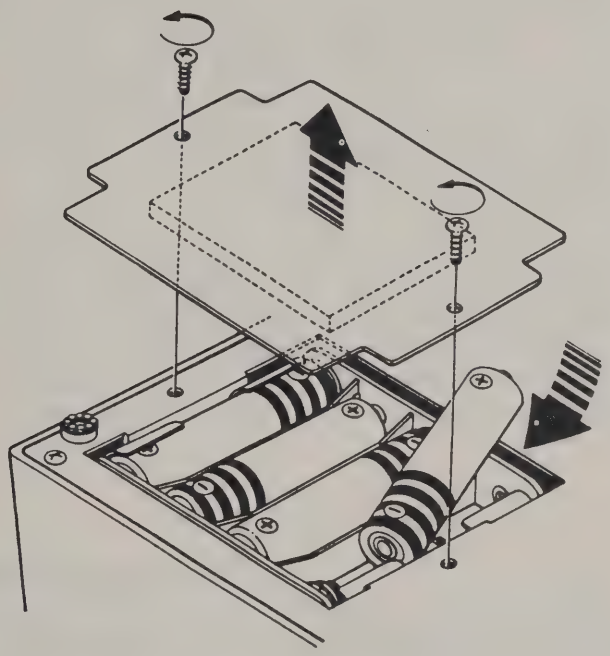

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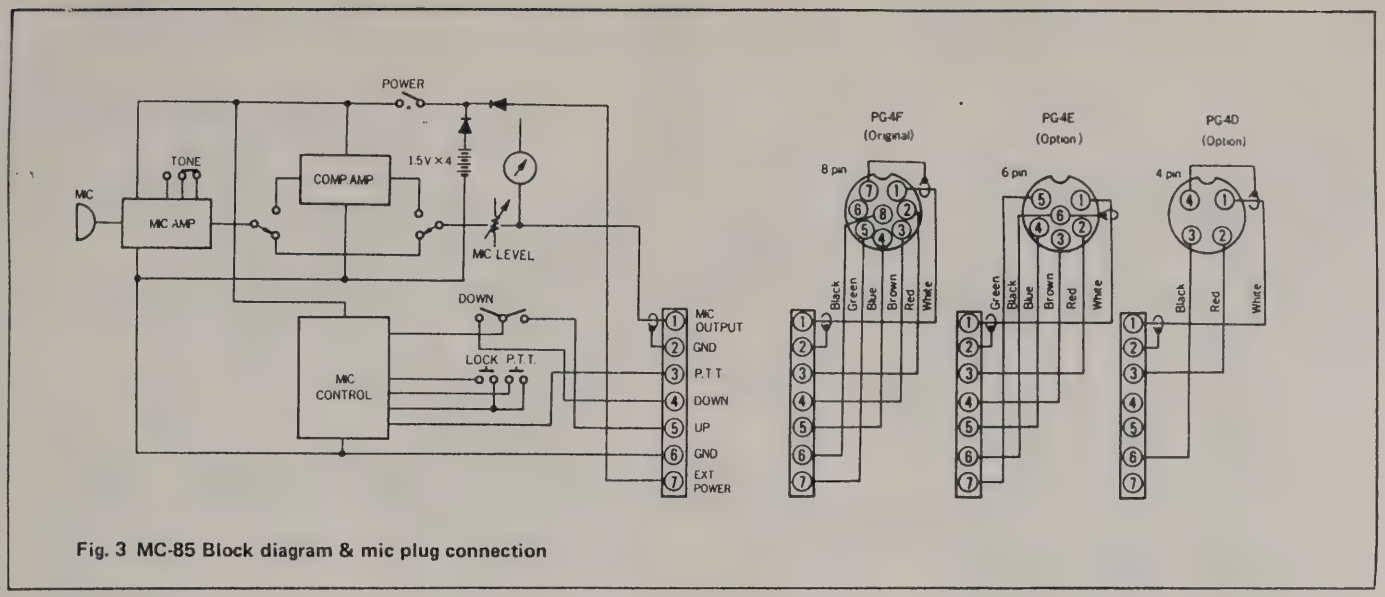

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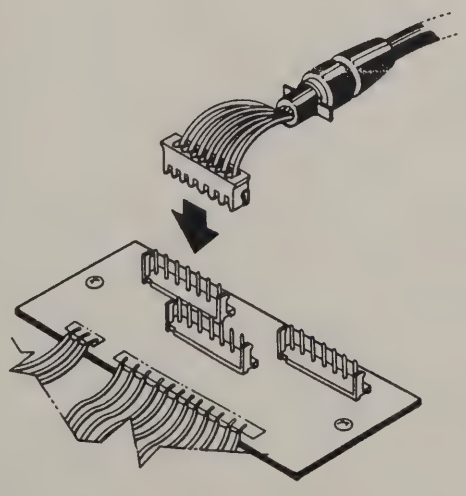

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COMP. OFF . . . . . –40 dB ± 6 dB
COMP. IN . . . . . –34 dB ± 6 dB
Frequency characteristic
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LOW CUT . . . . . Approx. –12 dB at 300 Hz
Audio Level Compensation
MAX. Compression level . . . . . 35 dB ± 3 dB
MAX. Input level . . . . . –30 dB ± 4 dB
Power supply
. . . . . Batteries 6V (1.5 V x 4 "AA" cells ... not supplied)
. . . . . .(Battery life greater than 400 hour, estimated)
Current comsumption
. . . . . .Approx. 11 mA (transmit mode)
Dimensions (mm) & Weight
. . . . . .177W x 55 (270)H x 157 (180)D, 1 kg (2.2 lbs)
(Figures in ( ) include projections.)

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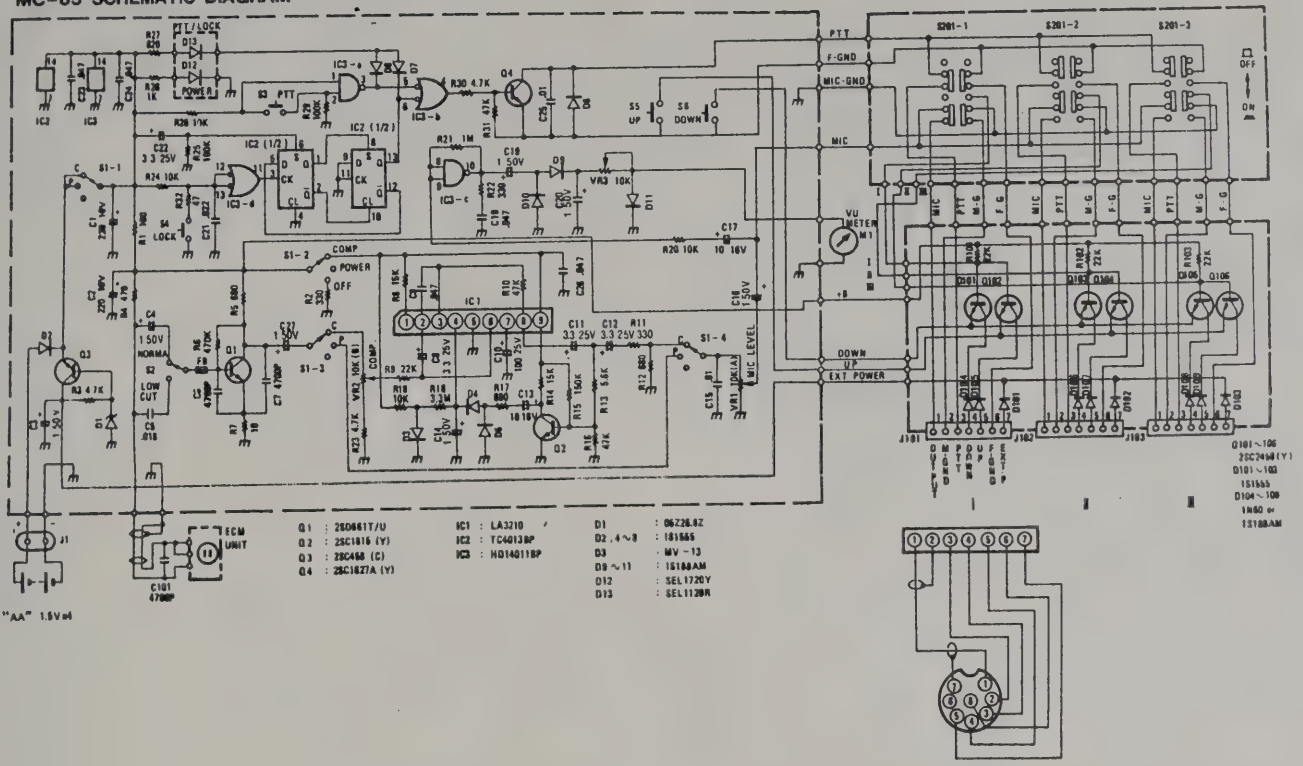

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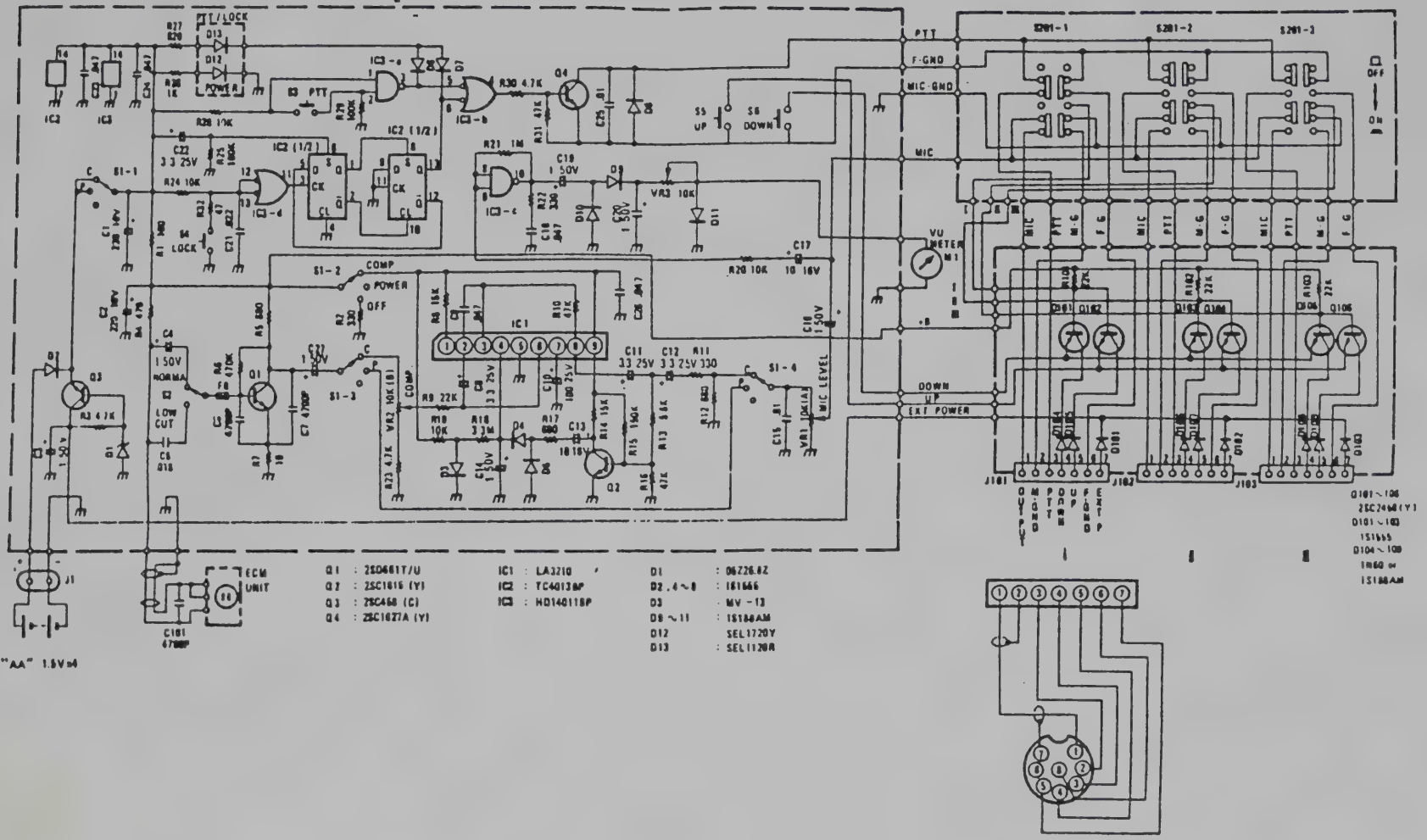

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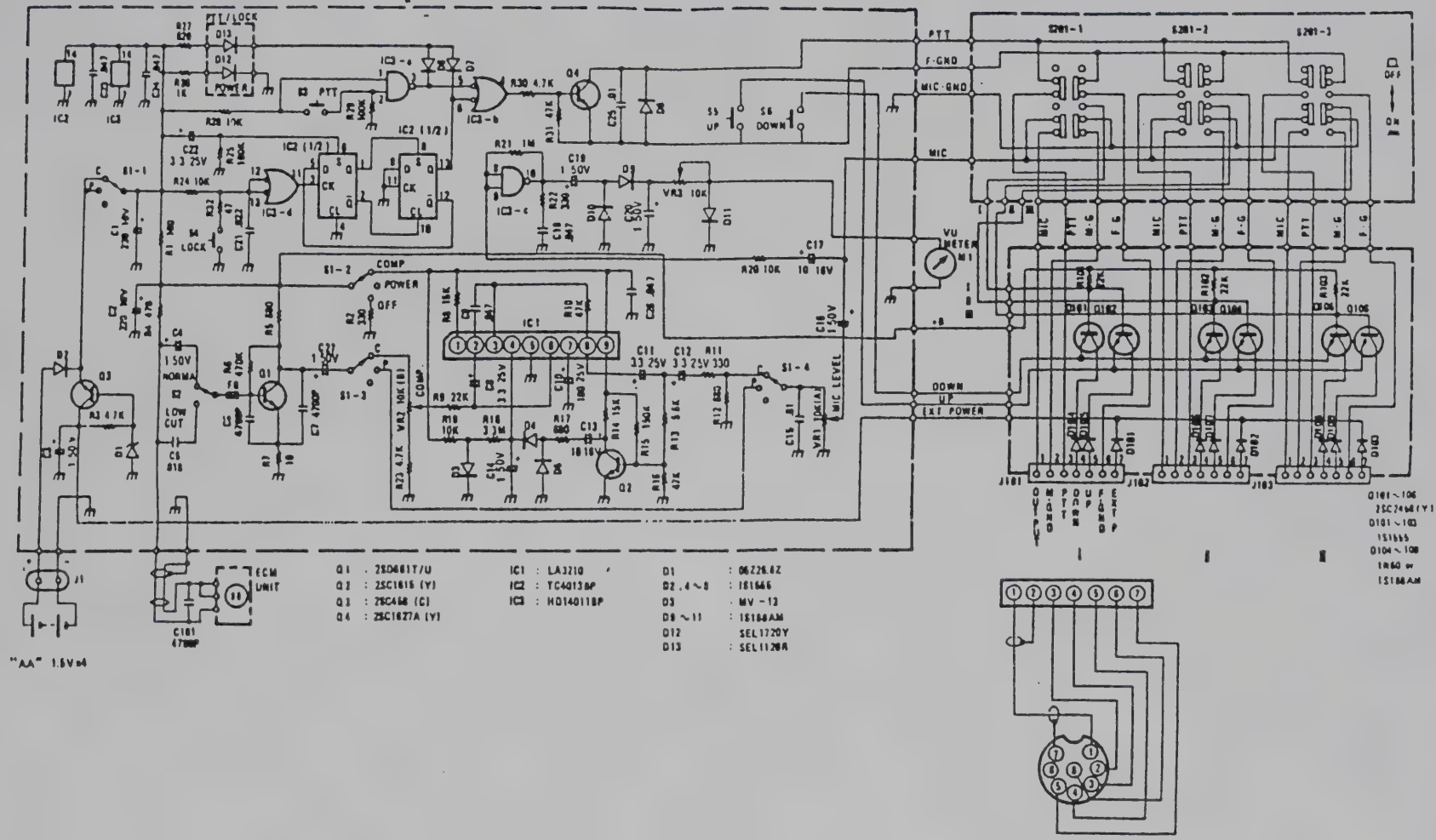

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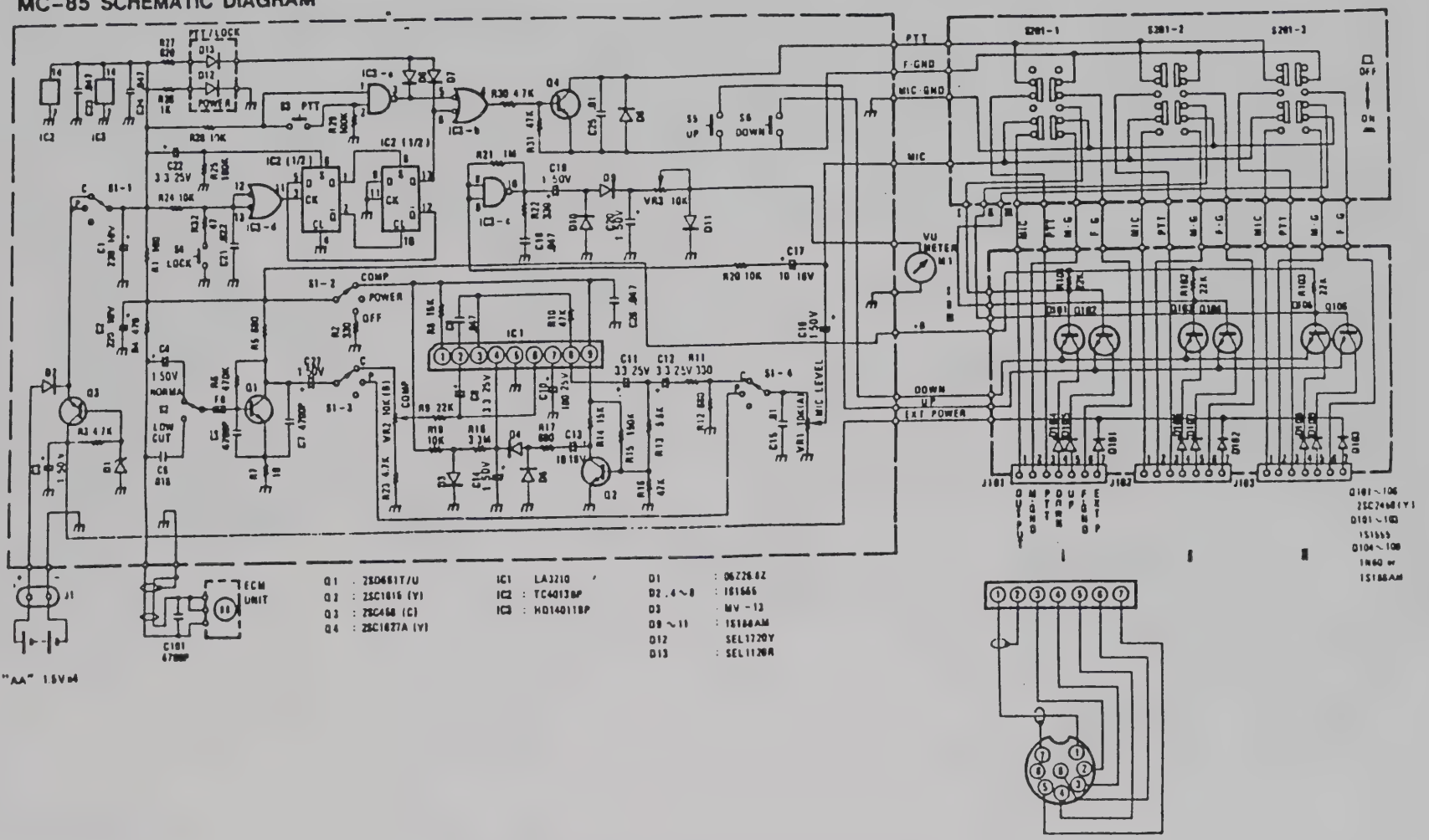

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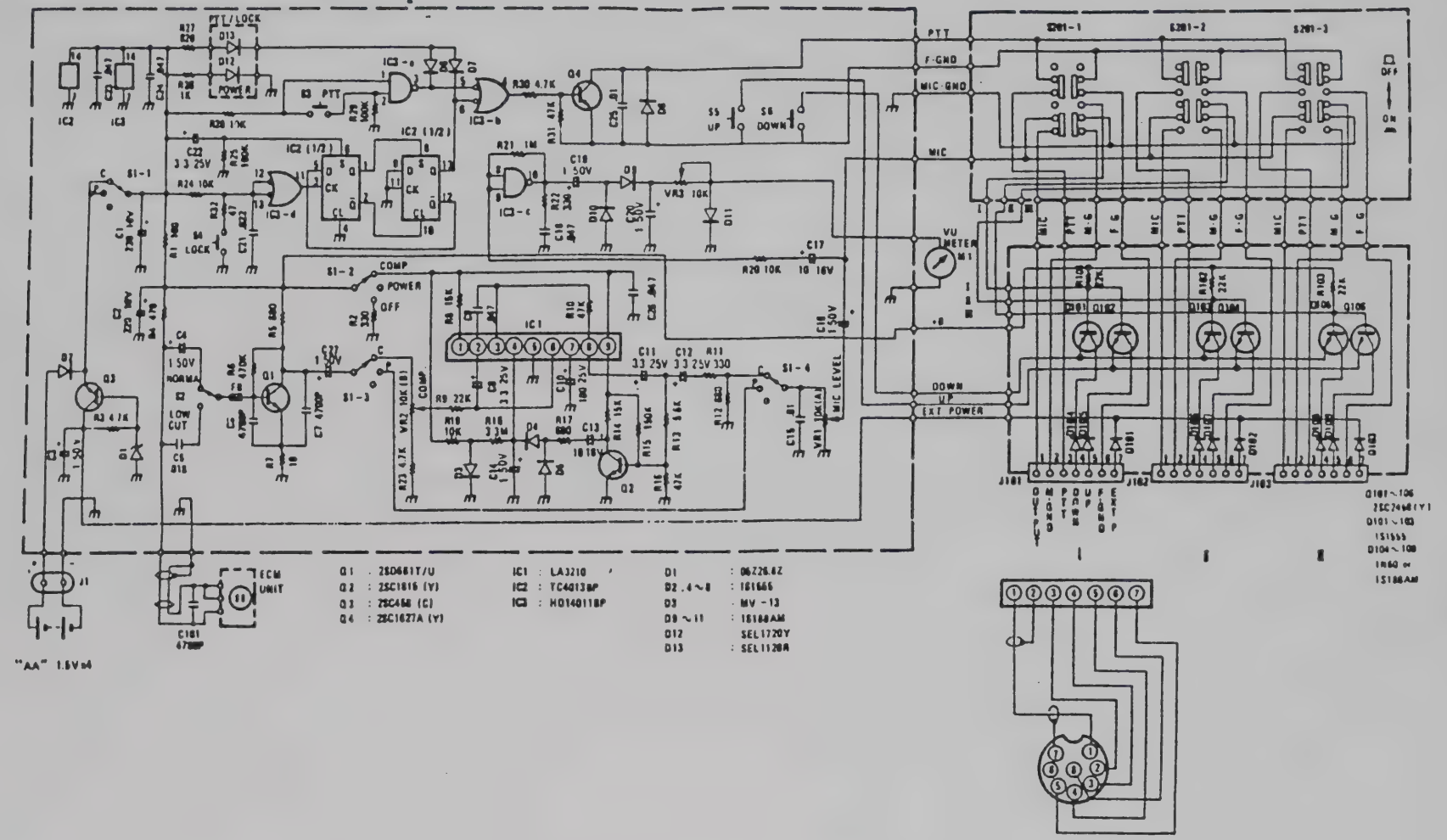

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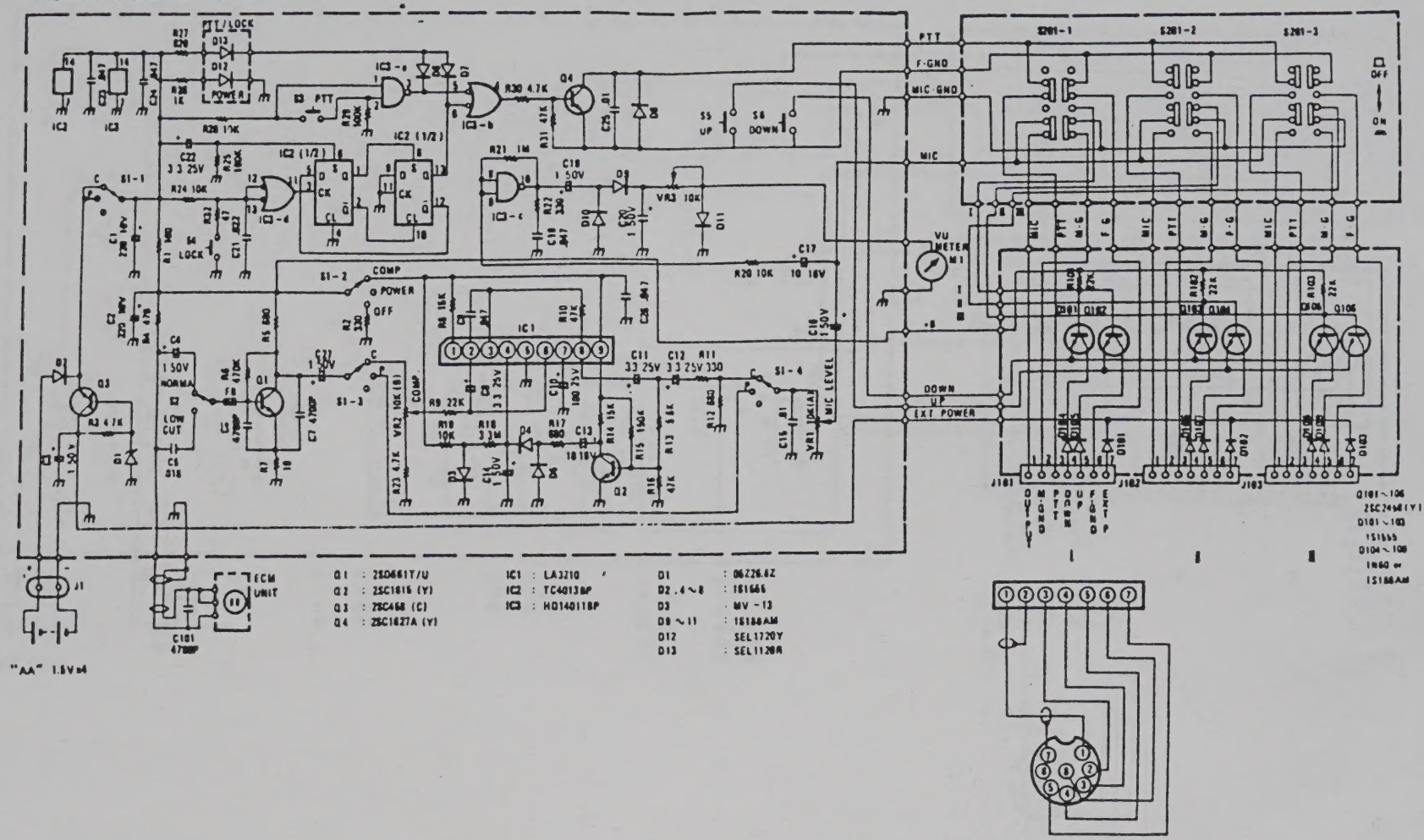

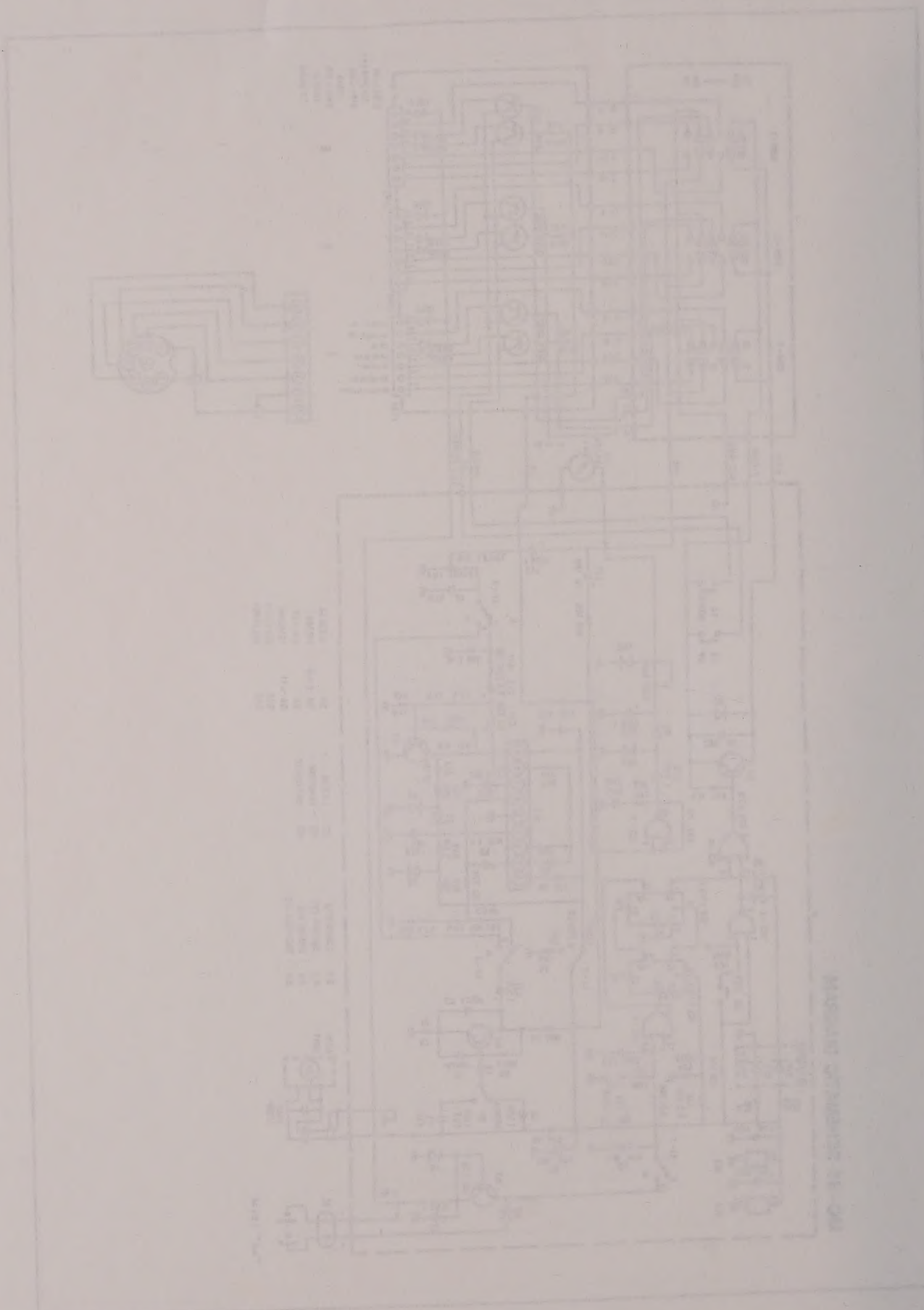

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